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SEPTEMBER 2004

Smithsonian

THE NATIONAL MUSEUM OF THE AMERICAN INDIAN

A new center for the hemisphere's first people opens in the capital

Sculptor Lee Bontecue's Bold New Vision

From Laos to America, the Hmong Story

Antarctica as You've Never Seen It

Finishing School for Condors

ANNOUNCING OUR SECOND ANNUAL PHOTO CONTEST

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*Toyota components and vehicles are made using many U.S. sourced parts. **Direct U.S. employment: 31,040 jobs as of 12/03. ©2004

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**General Motors Corp. – Lansing Grand River, MI (Car) plant was the highest ranked and the General Motors Corp. – Hamtramck, MI plant was the second highest ranked in North/South America among plants producing vehicles for the U.S. market. J.D. Power and Associates 2003-2004 Initial Quality Studies.[SM] 2004 Study based on a total of 51,208 U.S. consumer responses including owner reported problems during the first 90 days of ownership. www.jdpower.com

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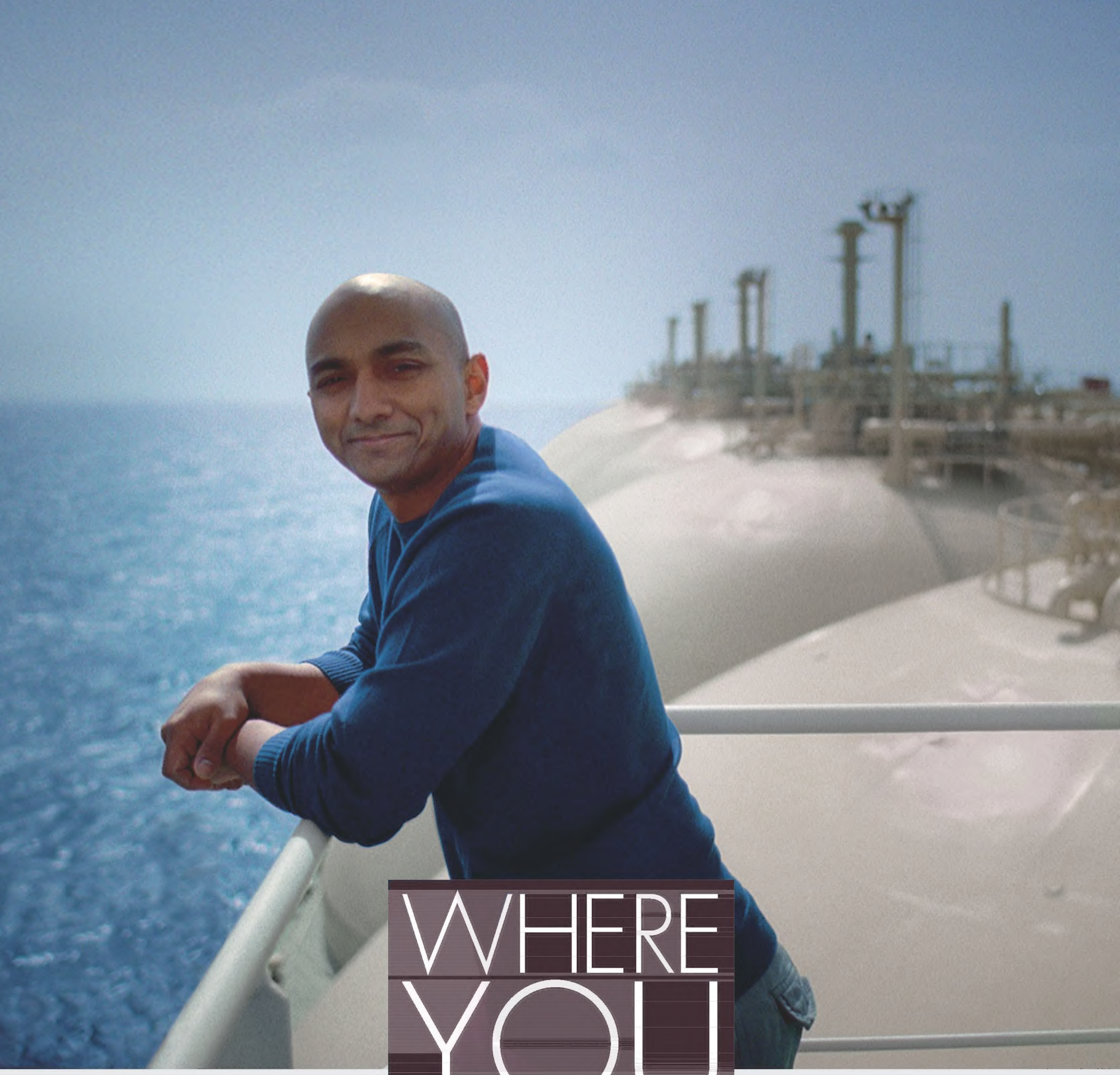

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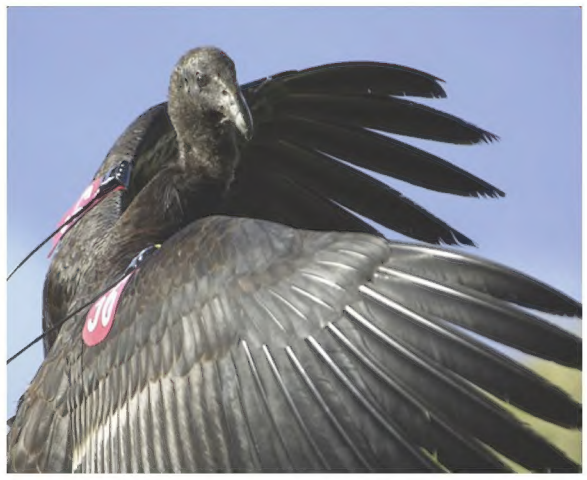
Smithsonian

SEPTEMBER 2004 VOLUME 35, NUMBER 6

FEATURES

"THE FIRST generations of captive-bred condors are reaching reproductive age, and they're beginning to 'behave in a responsible way, not goofing around on people's rooftops,' as some did as adolescent birds."
—"BECOMING A FULL-FLEDGED CONDOR," PAGE 92



92 Scientists have learned that the condor's curiosity can get the bird in a peck of trouble.

84 Thousands of Hmong refugees have immigrated to America since 1975.

74 Antarctica and environs (South Georgia island) attract more and more eco-tourists.

50 NATIONAL MUSEUM OF THE AMERICAN INDIAN

50 BY THE PEOPLE
A new museum, conceived largely by Native Americans, opens on the Mall
BY THOMAS HAYDEN / PHOTOGRAPHS BY ROBERT LAUTMAN

58 "A LONG TIME COMING"
Some American Indians talk about their history and their hopes

63 "WE RISE, WE FALL, WE RISE"
A Piscataway descendant bears witness at a capital groundbreaking
BY GABRIELLE TAYAC

66 RELUCTANT PATRIOT
Francis Scott Key, the lawyer and sometime poet who wrote the words to our national anthem in 1814, initially opposed the War of 1812 *BY NORMAN GELB*

74 UNEXPECTED ANTARCTICA
Photographs taken during two austral summers reveal a continent that outsiders rarely see, from abandoned explorers' huts to massive, flat-topped icebergs
PHOTOGRAPHS BY PAT AND ROSEMARIE KEOUGH / TEXT BY ANDREW CURRY

84 AMERICAN ODYSSEY
Given refuge in this country after serving as secret U.S. allies in the Vietnam War, Hmong immigrants from Laos are struggling but also embracing prosperity
BY MARC KAUFMAN

92 BECOMING A FULL-FLEDGED CONDOR
It turns out there's a lot more to returning threatened California condors to the wild than scientists first suspected
BY A.J.S. RAYL / PHOTOGRAPHS BY DAVE MONLEY

98 LEE BONTECOU'S BRAVE NEW WORLD
Lee Bontecou, a celebrated artist in the 1960s, has returned to the spotlight with huge, eye-popping pieces that challenge our very ideas about sculpture
BY PAUL TRACHTMAN

ON THE COVER The sinuous, stone-clad exterior of the new National Museum of the American Indian is reminiscent of a wind- and water-carved canyon wall. *PHOTOGRAPH BY ROBERT LAUTMAN*

50 Though designed as a "living memorial" to Native Americans, the new museum will also delve into the past (a reenactment, from an Indian perspective, of Custer's Last Stand, in Hardin, Montana).

DAVE MONLEY; BARBARA WALTON / EPA / WIDE WORLD PHOTOS; PAT AND ROSEMARIE KEOUGH; JEFF JACOBSON / REDUX PICTURES

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SEPTEMBER 2004 VOLUME 35, NUMBER 6

DEPARTMENTS

"IN 1878, Eadweard Muybridge, an eccentric Englishman and photographer who had murdered his wife's lover, claimed to be able to photograph a horse running at full speed."
—"MAN OF ACTION," PAGE 20

108 James Craddock insists "the world would be a much better place with more chestnuts."

26 A vintage railroad car is just the thing for a whistle-stop presidential campaign.

34 The wildly antic "Your Show of Shows" launched careers and shaped TV comedy.

43

"Playful Performers," the first-ever exhibit for kids at the National Museum of African Art, features this 1952 Nigerian mask.

20 INDELIBLE IMAGES MAN OF ACTION

Eadweard Muybridge's heart- (and hoof-) stopping image of a trotting horse not only answered a hotly debated question but revolutionized photography
BY VICTORIA OLSEN

26 POINTS OF INTEREST EASY RIDERS

Once eclipsed by the automobile and the airplane, private railroad cars are back on track—in all their historic glory *BY MYRON BECKENSTEIN*

34 THE OBJECT AT HAND COMEDY CENTRAL

A microphone from "Your Show of Shows" recalls the formative years of television comedy *BY OWEN EDWARDS*

108 PEOPLE FILE CHESTNUTTY

Biologist James Hill Craddock has made it his mission to restore the blight-ravaged chestnut tree to Eastern forests *BY SUSAN FREINKEL*

Smithsonian PHOTO CONTEST

12 EDITOR'S NOTE POINT, SHOOT, SUBMIT

14 FROM THE SECRETARY DEEP SCIENCE

16 LETTERS Hubble; plastic chairs; Cole Porter . . .

24 THIS MONTH IN HISTORY London's "bobbies"; Tracy Austin . . .

32 JUST LOOKING DECLARATION OF GENOCIDE

38 LEWIS AND CLARK MEETING THE SIOUX

43 AROUND THE MALL Lunchboxes; merry-go-round; gem show . . .

114 BOOKS *The Bookseller of Kabul; Charlie Wilson's War*

120 THE LAST PAGE FROM RUSSIA WITH LOVE

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NOVEMBER 2004 - JANUARY 2005

Welcome to CultureSpotter.com, a monthly listing of some of the most interesting cultural events around the globe. *(Dates subject to change)*

For more information, visit www.culturespotter.com.

Nov

November 5
GUY FAWKES DAY
London, England
www.londontown.com

November 5 - 14
ROYAL AGRICULTURAL WINTER FAIR & ROYAL HORSE SHOW
Toronto, Ontario, Canada
www.royalfair.org

November 10 - 14
SMITHSONIAN CULTUREFEST
Phoenix/Scottsdale, Arizona
www.culturefest.com

Dec

December 10 - 17
MEVLANA FESTIVAL
Konya, Turkey
www.kultur.gov.tr

December 12
FEAST OF THE VIRGIN OF GUADALUPE
Oaxaca, Mexico
www.lasculturas.com/lib/libFeastGuad.htm

December 31
KAISERBALL
Vienna, Austria
www.hofburg.com/e/va/index.php

Jan

January 20 - 30
SUNDANCE FILM FESTIVAL
Park City, Utah
www.sundance.org

January 20 - 30
WORLD BUSKERS FESTIVAL
Christchurch, New Zealand
www.worldbuskersfestival.com

FEATURED EVENT

DIANA, A CELEBRATION
The Museum of Art, Fort Lauderdale, Florida will be the only U.S. stop for the extraordinary exhibition, "Diana, A Celebration." This rare collection on display from October 15 through December 31, includes Princess Diana's tiara, wedding ensemble, other designer dresses and heirlooms. Visit www.sunny.org for details.

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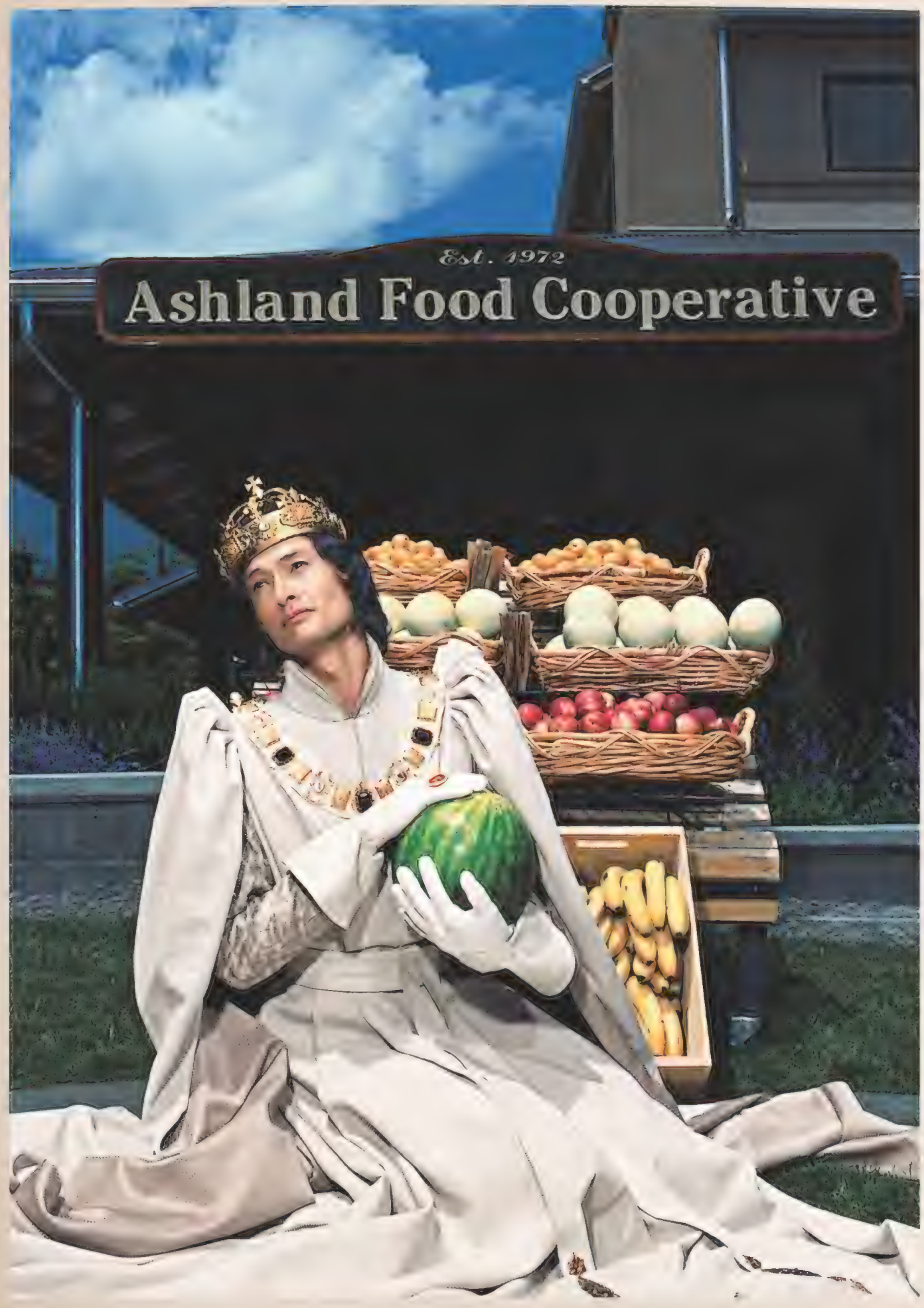
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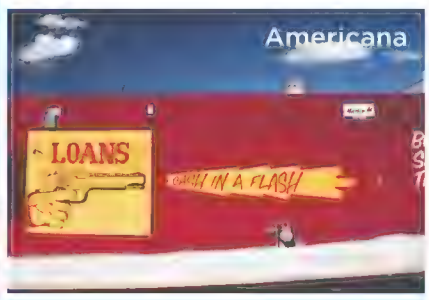
BY CAREY WINFREY

LAST YEAR'S PHOTO CONTEST, our first ever, was so successful—more than 12,000 entries yielding 50 finalists and 6 winners—that we've decided to do it again. And this year we will accept electronic entries as well as prints submitted by mail. We've also increased the value of the prizes. The rules, some of which have changed, are published below. Thanks to our attorneys, the rules are impressively elaborate. Please read them carefully. A submission form for mailed entries appears on page 119.



PRIZES: Five winners will be selected, one for each category. In addition, we will select one grand-prize winner. Winners of each category will receive $1,000. The grand-prize winner, chosen from 50 finalists, will receive an eight-day Smithsonian Journeys cruise for two to Alaska in late July 2005—including lodging, meals and round-trip airfare from New York or Los Angeles—or the cash equivalent. Additional, noncash prizes will be provided by HP. Winners must sign an affidavit and license and will be responsible for paying any taxes they may owe on a prize.

WHO MAY ENTER: The contest is open to amateur photographers ages 18 and over. Smithsonian Institution employees, their immediate families (children, siblings and spouses) and others living in their households are not eligible. Nor are professional photographers who earn more than half of their income taking pictures. SMITHSONIAN editors will determine winners' eligibility.

WHAT TO ENTER: The five contest categories are drawn from those subjects of special interest to the magazine:

AMERICANA—Events, objects or activities connecting the American people to their history or their cultural heritage.

THE NATURAL WORLD—Animals, plants and landscapes; geological or climatological features; and scientific processes and endeavors.

PEOPLE—Individuals from all walks of life.

CULTURE AND THE ARTS—Paintings, sculpture, crafts or other instances of creativity, including people in performance.

TRAVEL—Locales, peoples or activities in the United States and abroad that convey a sense of place.

Smithsonian PHOTO CONTEST

CONTINUED ON PAGE 119

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SMI9/04

Deep Science

From the Chesapeake Bay to Panama, scores of Smithsonian divers probe underwater mysteries

THE WORD "SCUBA" contains the name of an entire tropical island, so you might expect its origin to be at least a bit exotic. But no. Scuba dates from the early 1950s as a purely utilitarian acronym for "self-contained underwater breathing apparatus." Say "scuba diving" today, and for most people it's probably the recreational sort that comes first to mind. But scuba skills are essential to many professionals, such as oil-rig divers in the commercial sector. What may come as a surprise is that many Smithsonian researchers also need them.

The diving that occurs under Smithsonian auspices is called scientific diving. Its goal is to advance science through research underwater. The Smithsonian's Marine Science Network includes sites down the east coast of the continent, from the Chesapeake Bay in Maryland to locations in Florida and Belize, and on both the Atlantic and Pacific sides of Panama. The work performed at those sites—in marine ecology, geology, evolutionary biology and systematics (describing patterns of biodiversity in the sea)—has a cumulative authority born of decades of continual observation by Smithsonian researchers.

Marine biologist Michael A. Lang is director of the Marine Science Network, in addition to being, since 1990, the Smithsonian's scientific diving officer. He and his staff authorize about 180 scientists a year to dive with scuba equipment, but only after they complete a three-week course of instruction. The course includes lectures on physics, physiology and diving safety, a series of pool-based skills sessions, and a dozen supervised open-water dives in Key Largo or Panama. The progress of an individual's competence is precisely monitored, through distances that would be negligible in the surface world but are critical markers of safe passage underwater. A diver is cleared first to descend to 30 feet, and then, in stages, to depths of 60, 100, 130, 150 and 190 feet. The last is the maximum depth on compressed air permitted under Smithsonian practice, and only a dozen staff members have clearance to work so deep. Despite the postcard beauty of much scuba diving, the activity is not without risk, and the deeper the descent and the longer the time of submersion, the greater the need for caution. The principal danger is not the improbable giant squid or ravenous moray eel familiar to moviegoers but the debilitating effects of prolonged exposure underwater or a too-hasty ascent to the surface.

Marine biologist Michael Lang visits an octopus in waters off Belize.

What draws scientists to the depths? A research agenda as spacious and varied as the environment they find there. They've observed, for example, how the highest sea-surface temperatures ever recorded, linked both to El Niño in 1997-98 and to global warming, induced the mass mortality of corals on lagoonal reefs in Belize; the coral loss, unprecedented in the past 3,000 years, justifies concerns about global climate change. But not all the news from down under is alarming. The first marine crustaceans with a social structure, three species of snapping shrimp, were recently discovered, and scientists now have an entirely new biological system in which to study advanced cooperative animal societies—aquatic competition for airborne bees and earthbound ants.

Scientific diving is not the same as the science of diving, but because advances in the second benefit the first, Michael Lang has taken a career-long interest in research on the physiological effects of diving. Typical concerns: How quickly should you ascend from various depths, and, if you're to dive both deep and shallow, in what order should you do the dives? In the 14 years Michael has been at the Smithsonian, some 600 scientific divers have logged more than 45,000 open-water scuba dives. In all those years, there has been but a single medical emergency among Smithsonian divers, and the incident had a happy resolution. Our scientists regularly slip from the bright familiar world to the dimmer one awaiting discovery beneath the waves. And time and again, buoyed by Michael's guidance, they come safely home.

Lawrence M. Small
SECRETARY OF THE SMITHSONIAN INSTITUTION

D.A. PETERSON; CARL HANSEN

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LETTERS

Readers respond to the July issue:

HUBBLE TROUBLE

THE PROBABLE LOSS of the Hubble Space Telescope ("Hubble's Last Hurrahs?") is another example of the triumph of politics over logic. Fourteen years ago NASA and its contractors were trying to define the mission of the space station, and there's still no credible purpose for the completion of this money hole in space. It would be far better for science, and our national pocketbook, to abandon the space station now, maintain the space shuttle temporarily for Hubble maintenance, and develop a new vehicle just for the servicing of valuable satellites such as the Hubble.

ROBERT H. MCDOUGLE
LOS OSOS, CALIFORNIA

CRAMPED IN MANHATTAN

I'M NOT SURE why Arcosanti ("The Anti-Burb"), an experimental, compact, high-density community, had to be built in the Arizona desert to figure out if people can live without amenities such as lots of space, garages and cars. We in Manhattan live in tiny apartments in buildings with concierges, playrooms and gyms. If we choose not to leave, we can have the supermarket or any restaurant deliver. We may not be as ecologically sound as Arcosanti, but we've been around a lot longer, and most buildings in Manhattan are economically sound.

ANDREW COYNE
NEW YORK, NEW YORK

IT IS IRONIC, not to mention hypocritical, that Paolo Soleri, who said "The single-family home, and suburbia with it, goes—or we humans go," lives in a two-bedroom ranch house on a five-acre lot.

ROXANNE CUMMINGS
TROUTDALE, OREGON

"THE CHAIR" IS EVERYWHERE

HIGHLIGHTING the fact that the one-piece plastic chair ("Everybody Take a Seat") truly has become a world fixture, photographs accompanying two unrelated articles in the same issue featured "The Chair": a patio in Arcosanti and a billboard in Pakistan. By the time I read "The Rocky Road to Revolution," I half expected to see Thomas Jefferson drafting the Declaration of Independence in one too.

DENNIS SNELLING
PHOENIX, ARIZONA

THREE YEARS AGO I founded the Free Wheelchair Mission. We offer a rugged, functional yet inexpensive wheelchair made with a resin patio chair and mountain bicycle wheels and tires. Our wheelchair is for the 130 million physically disabled people who have to crawl on the ground or must be carried to get around. To date we have given 30,000 wheelchairs free to the poor people in 37 countries. Our goal is to provide 20 million wheelchairs this decade. The resin chair is indispensable to our mission.

DON SCHOENDORFER
PRESIDENT, FREE WHEELCHAIR MISSION
SANTA ANA, CALIFORNIA

DE-LICIOUS

I WAS VERY interested in "What is This Thing Called Love?" about Cole Porter. My aunt was the head of housekeeping personnel in the Waldorf Towers. In June 1935, when I was 8 years old, she introduced me to Cole Porter in his Towers apartment. Mr. Porter's wife was there in a wheelchair. I played the "Minute Waltz" for him, and he complimented me for playing it in 68 seconds. His apartment had an ice-cream bar, and I made a sundae. This was much more impressive to a child than the name Cole Porter. I didn't realize how important he was until I was much older and played his songs.

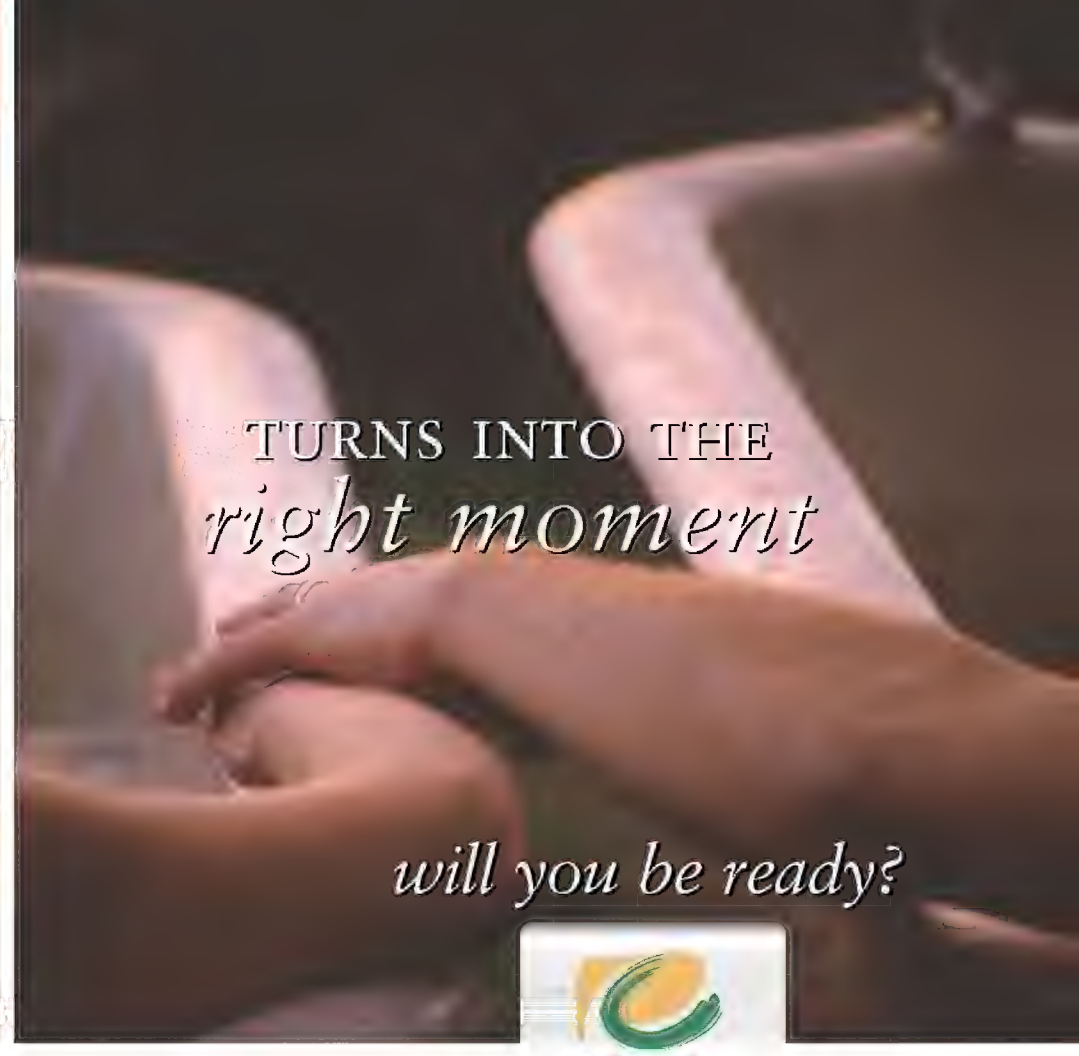
JEANNE A. MCGIRR
MERRITT ISLAND, FLORIDA

CORRECTIONS: *In "The Anti-Burb," David Andrew, of the University of New Hampshire, was incorrectly identified. Also, on page 98, the portrait identified as John Adams is in fact Samuel Adams.*

Please send letters to LettersEd@simag.si.edu or to **Letters, Smithsonian, MRC 951, P.O. Box 37012, Washington, D.C. 20013.** Include a telephone number and address. Letters may be edited for clarity or space. Because of the high volume of mail we receive, we cannot respond to all letters. Send queries about the Smithsonian Institution to info@si.edu or to VIARC, Public Inquiry Mail Service, P.O. Box 37012, Washington, D.C. 20013.

DOUBLE TAKE

Seven-year-old Harry, son of David Poe, a finalist in SMITHSONIAN's Photo Contest, says "it's cool but kind of weird" to appear on the cover of our June issue.



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Don't miss another moment, talk to your doctor and see if a *free sample* of Cialis is right for you. For more information visit *www.cialis.com* or call 1-877-4-CIALIS.

See important safety information below and Patient Information on following page.

Cialis is not for everyone. If you take nitrates, often used for chest pain (also known as angina), or alpha-blockers (other than Flomax 0.4 mg once daily), prescribed for prostate problems or high blood pressure, do not take Cialis. Such combinations could cause a sudden, unsafe drop in blood pressure. Don't drink alcohol in excess (to a level of intoxication) with Cialis. This combination may increase your chances of getting dizzy or lowering your blood pressure. Cialis does not protect a man or his partner from sexually transmitted diseases, including HIV.

The most common side effects with Cialis were headache and upset stomach. Backache and muscle ache were also reported, sometimes with delayed onset. Most men weren't bothered by the side effects enough to stop taking Cialis. Although a rare occurrence, men who experience an erection for more than 4 hours (priapism) should seek immediate medical attention. Discuss your medical conditions and medications with your doctor to ensure Cialis is right for you and that you are healthy enough for sexual activity.

**In clinical trials, Cialis was shown to improve, up to 36 hours after dosing, the ability of men with ED to have a single successful intercourse attempt.*

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Patient Information

Cialis®
(tadalafil) tablets

Read the Patient Information about CIALIS before you start taking it and again each time you get a refill. There may be new information. You may also find it helpful to share this information with your partner. This leaflet does not take the place of talking with your doctor. You and your doctor should talk about CIALIS when you start taking it and at regular checkups. If you do not understand the information, or have questions, talk with your doctor or pharmacist.

What important information should you know about CIALIS?

CIALIS can cause your blood pressure to drop suddenly to an unsafe level if it is taken with certain other medicines. You could get dizzy, faint, or have a heart attack or stroke.

Do not take CIALIS if you:

- **take any medicines called "nitrates."**
- **use recreational drugs called "poppers" like amyl nitrate and butyl nitrate.**
- **take medicines called alpha blockers, other than Flomax® (tamsulosin HCl) 0.4 mg daily.**

(See "Who should not take CIALIS?")

Tell all your healthcare providers that you take CIALIS. If you need emergency medical care for a heart problem, it will be important for your healthcare provider to know when you last took CIALIS.

After taking a single tablet, some of the active ingredient of CIALIS remains in your body for more than 2 days. The active ingredient can remain longer if you have problems with your kidneys or liver, or you are taking certain other medications (see "Can other medications affect CIALIS?").

What is CIALIS?

CIALIS is a prescription medicine taken by mouth for the treatment of erectile dysfunction (ED) in men.

ED is a condition where the penis does not harden and expand when a man is sexually excited, or when he cannot keep an erection. A man who has trouble getting or keeping an erection should see his doctor for help if the condition bothers him. CIALIS may help a man with ED get and keep an erection when he is sexually excited.

CIALIS does not:

- cure ED
- increase a man's sexual desire
- protect a man or his partner from sexually transmitted diseases, including HIV. Speak to your doctor about ways to guard against sexually transmitted diseases.
- serve as a male form of birth control

CIALIS is only for men with ED. CIALIS is not for women or children. CIALIS must be used only under a doctor's care.

How does CIALIS work?

When a man is sexually stimulated, his body's normal physical response is to increase blood flow to his penis. This results in an erection. CIALIS helps increase blood flow to the penis and may help men with ED get and keep an erection satisfactory for sexual activity. Once a man has completed sexual activity, blood flow to his penis decreases, and his erection goes away.

Who can take CIALIS?

Talk to your doctor to decide if CIALIS is right for you.

CIALIS has been shown to be effective in men over the age of 18 years who have erectile dysfunction, including men with diabetes or who have undergone prostatectomy.

Who should not take CIALIS?

Do **not** take CIALIS if you:

- **take any medicines called "nitrates"** (See "What important information should you know about CIALIS?"). Nitrates are commonly used to treat angina. Angina is a symptom of heart disease and can cause pain in your chest, jaw, or down your arm.

  Medicines called nitrates include nitroglycerin that is found in tablets, sprays, ointments, pastes, or patches. Nitrates can also be found in other medicines such as isosorbide dinitrate or isosorbide mononitrate. Some recreational drugs called "poppers" also contain nitrates, such as amyl nitrate and butyl nitrate. Do not use CIALIS if you are using these drugs. Ask your doctor or pharmacist if you are not sure if any of your medicines are nitrates.
- **take medicines called "alpha blockers", other than Flomax® 0.4 mg daily.** Alpha blockers are sometimes prescribed for prostate problems or high blood pressure. If CIALIS is taken with alpha blockers other than Flomax® 0.4 mg daily, your blood pressure could suddenly drop to an unsafe level. You could get dizzy and faint.
- **you have been told by your healthcare provider to not have sexual activity because of health problems.** Sexual activity can put an extra strain on your heart, especially if your heart is already weak from a heart attack or heart disease.
- **are allergic to CIALIS or any of its ingredients.** The active ingredient in CIALIS is called tadalafil. See the end of this leaflet for a complete list of ingredients.

What should you discuss with your doctor before taking CIALIS?

Before taking CIALIS, tell your doctor about all your medical problems, including if you:

- **have heart problems** such as angina, heart failure, irregular heartbeats, or have had a heart attack. Ask your doctor if it is safe for you to have sexual activity.
- **have low blood pressure or** have high blood pressure that is not controlled
- **have had a stroke**
- **have liver problems**
- **have kidney problems or require dialysis**
- **have retinitis pigmentosa,** a rare genetic (runs in families) eye disease
- **have stomach ulcers**
- **have a bleeding problem**
- **have a deformed penis shape** or Peyronie's disease
- **have had an erection that lasted more than 4 hours**
- **have blood cell problems** such as sickle cell anemia, multiple myeloma, or leukemia

Can other medications affect CIALIS?

Tell your doctor about all the medicines you take including prescription and non-prescription medicines, vitamins, and herbal supplements. CIALIS and other medicines may affect each other. Always check with your doctor before starting or stopping any medicines. Especially tell your doctor if you take any of the following:

- medicines called nitrates (See "What important information should you know about CIALIS?")
- medicines called alpha blockers. These include Hytrin® (terazosin HCl), Flomax® (tamsulosin HCl), Cardura® (doxazosin mesylate), Minipress® (prazosin HCl) or Uroxatral® (alfuzosin HCl).
- ritonavir (Norvir®) or indinavir (Crixivan®)
- ketoconazole or itraconazole (such as Nizoral® or Sporanox®)
- erythromycin
- other medicines or treatments for ED

How should you take CIALIS?

Take CIALIS exactly as your doctor prescribes. CIALIS comes in different doses (5 mg, 10 mg, and 20 mg). For most men, the recommended starting dose is 10 mg. **CIALIS should be taken no more than once a day.** Some men can only take a low dose of CIALIS because of medical conditions or medicines they take. Your doctor will prescribe the dose that is right for you.

- If you have kidney problems, your doctor may start you on a lower dose of CIALIS.
- If you have kidney or liver problems or you are taking certain medications, your doctor may limit your highest dose of CIALIS to 10 mg and may also limit you to one tablet in 48 hours (2 days) or one tablet in 72 hours (3 days).

Take one CIALIS tablet before sexual activity. In some patients, the ability to have sexual activity was improved at 30 minutes after taking CIALIS when compared to a sugar pill. The ability to have sexual activity was improved up to 36 hours after taking CIALIS when compared to a sugar pill. You and your doctor should consider this in deciding when you should take CIALIS prior to sexual activity. Some form of sexual stimulation is needed for an erection to happen with CIALIS. CIALIS may be taken with or without meals.

Do not change your dose of CIALIS without talking to your doctor. Your doctor may lower your dose or raise your dose, depending on how your body reacts to CIALIS.

Do not drink alcohol to excess when taking CIALIS (for example, 5 glasses of wine or 5 shots of whiskey). When taken in excess, alcohol can increase your chances of getting a headache or getting dizzy, increasing your heart rate, or lowering your blood pressure.

If you take too much CIALIS, call your doctor or emergency room right away.

What are the possible side effects of CIALIS?

The most common side effects with CIALIS are headache, indigestion, back pain, muscle aches, flushing, and stuffy or runny nose. These side effects usually go away after a few hours. Patients who get back pain and muscle aches usually get it 12 to 24 hours after taking CIALIS. Back pain and muscle aches usually go away by themselves within 48 hours. Call your doctor if you get a side effect that bothers you or one that will not go away.

CIALIS may uncommonly cause:

- **an erection that won't go away (priapism).** If you get an erection that lasts more than 4 hours, get medical help right away. Priapism must be treated as soon as possible or lasting damage can happen to your penis including the inability to have erections.
- vision changes, such as seeing a blue tinge to objects or having difficulty telling the difference between the colors blue and green.

These are not all the side effects of CIALIS. For more information, ask your doctor or pharmacist.

How should CIALIS be stored?

- Store CIALIS at room temperature between 59° and 86°F (15° and 30°C).
- **Keep CIALIS and all medicines out of the reach of children.**

General Information about CIALIS:

Medicines are sometimes prescribed for conditions other than those described in patient information leaflets. Do not use CIALIS for a condition for which it was not prescribed. Do not give CIALIS to other people, even if they have the same symptoms that you have. It may harm them.

This leaflet summarizes the most important information about CIALIS. If you would like more information, talk with your healthcare provider. You can ask your doctor or pharmacist for information about CIALIS that is written for health professionals.

For more information you can also visit www.cialis.com, or call 1-877-242-5471.

What are the ingredients of CIALIS?

Active Ingredient: tadalafil

Inactive Ingredients: croscarmellose sodium, hydroxypropyl cellulose, hypromellose, iron oxide, lactose monohydrate, magnesium stearate, microcrystalline cellulose, sodium lauryl sulfate, talc, titanium dioxide, and triacetin.

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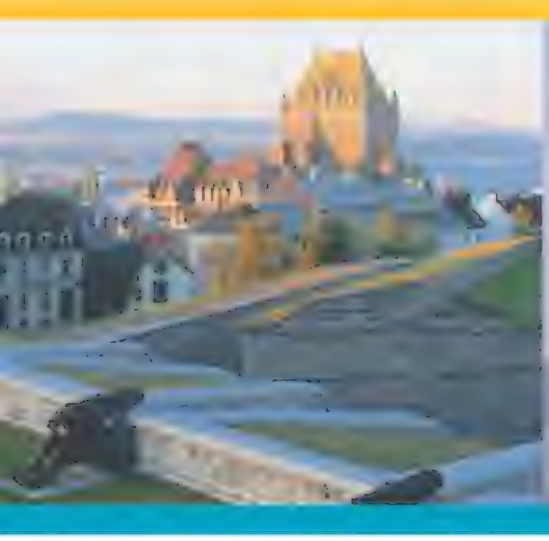

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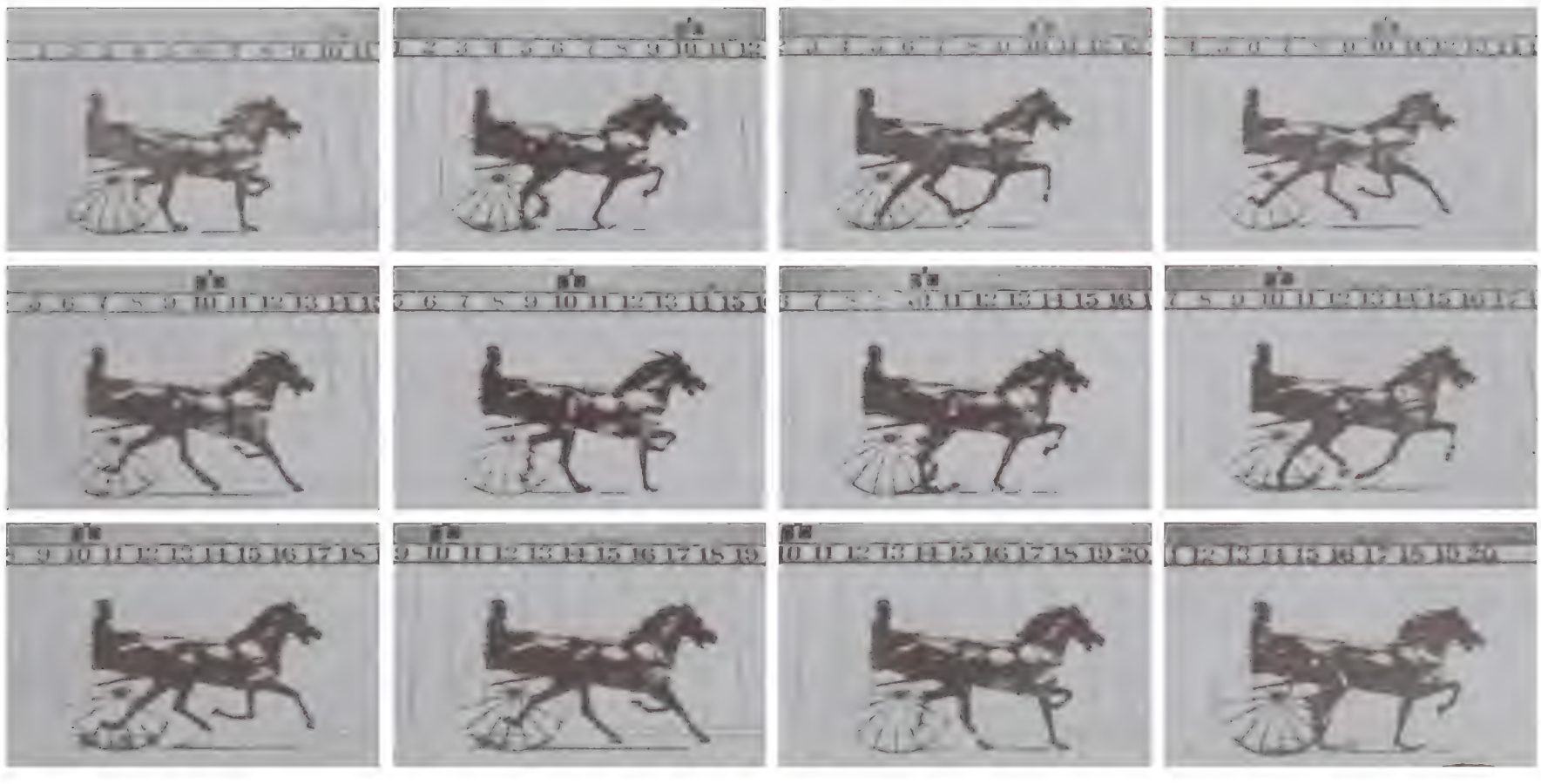

Muybridge's photographic sequence, the first to show motion in such detail, would "extend vision to a new realm," says biographer Solnit.

Man of Action

An eccentric photographer and a racehorse made history one day in 1878. The world would never look the same – BY VICTORIA OLSEN

ON JUNE 15, 1878, members of the San Francisco press gathered at a racetrack in Palo Alto, California, to witness a historic event. Eadweard Muybridge, an eccentric Englishman and photographer who not long before had murdered his wife's lover, claimed to be able to photograph a horse running at full speed—a feat considered impossible with the era's balky cameras, which had wooden shutters and insensitive glass-plate negatives. The horse as well as the track belonged to Leland Stanford, the railroad tycoon, United States senator, former governor of California and, later, cofounder of the university that bears his name. The half-second run would not only revolutionize photography but would also set the stage for the next century's dominant art form, movies.

Stanford had initiated the collaboration with Muybridge six years earlier, and hanging over their photography experiments was a question with surprising repercussions: when a horse runs, do all four hooves leave the ground at the same time? No photograph survives from their earliest efforts. On that June day Muybridge placed 12 box cameras 21 inches apart alongside the track. They were attached to tripwires and outfitted with metal, electric-operated shutters capable of opening and closing far faster than any before. Muybridge had also modified the emulsion on the glass-plate negatives, making them more reactive to light. The reporters watched Abe Edgington, a champion trotter, dash by, his legs a blur, and waited for Muybridge to develop the plates on the spot.

As advertised, he produced a series of photographs showing the horse virtually stride by stride. And flying in the face of conventional wisdom, Abe Edgington was at times definitely airborne. "There is a feeling of awe in the mind of the beholder," one reporter wrote of the pictures. Muybridge's astounding photographs were published in newspapers around the world. When Stanford showed the pictures to the French painter Jean Louis Ernest Meissonier, who special-

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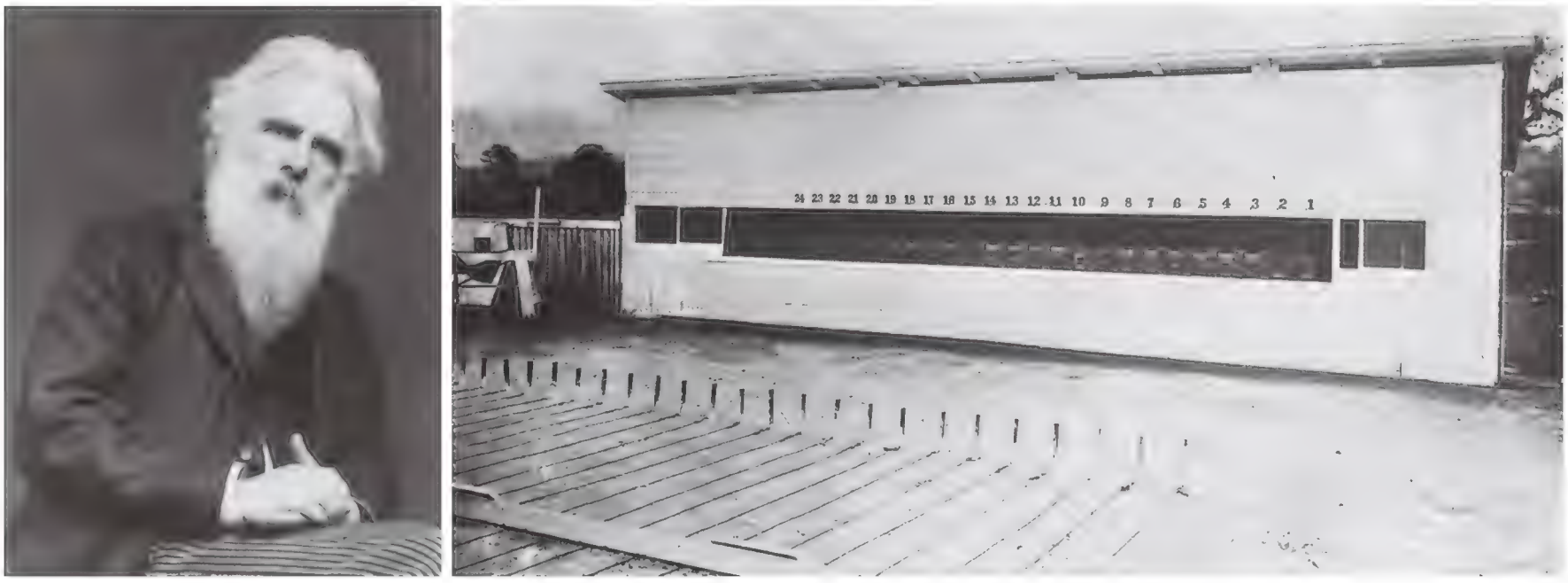
Muybridge pursued the man to Calistoga and killed him.

ized in equestrian scenes, the artist realized that he'd been misrepresenting horses' gaits for decades. "Never again shall I touch a brush!" the painter vowed (though he would change his mind).

The impact of instantaneous photography, as the invention is called, is hard to overstate. The unlikely partnership of the American industrialist and the itinerant Englishman had documented a phenomenon too fast for the human eye to see. "It was a fundamental change in the nature of photography" that took "humanity across the threshold into a new world of knowledge and representation," Rebecca Solnit writes in her 2003 biography of Muybridge, *River of Shadows*

Since his stagecoach accident, Muybridge's behavior had become increasingly erratic. In 1874, he learned that his wife had been having an affair with a journalist named Harry Larkyns. After seeing a picture of his own son with an inscription suggesting that the boy might have been fathered by Larkyns, Muybridge pursued the man to Calistoga, California, where he shot and killed him. After a sensational trial, Muybridge was acquitted on the grounds that the homicide was justifiable. He decamped to Central America and reinvented himself yet again, as Eduardo Santiago Muybridge, before returning to San Francisco in 1876.

Following his success at the Palo Alto track, Muybridge



In his pioneering experiment, Muybridge (c. 1890) directed the horse to run down Stanford's Palo Alto track past 12 tripwired cameras.

MUYBRIDGE HAD BEGUN LIFE as Edward James Muggeridge in 1830 in Kingston-on-Thames, England. He and his two younger brothers moved to the United States in the 1850s. Edward settled in New York City before heading west, setting up as a bookseller in San Francisco and changing his name to Muygridge. In 1860, while traveling through Texas on his way to New York, his stagecoach hit a tree, and he received a serious head injury. He spent most of the following year undergoing medical treatment in New York and London, and he stayed on in England during the American Civil War. When he surfaced again in San Francisco, in 1867, he had become a photographer named Edward Muybridge who signed his work "Helios."

How he learned photography is a mystery. But, like the esteemed photographer Carleton Watkins, he traveled to Yosemite Valley and made dramatic pictures of its peaks and waterfalls, often from precarious angles. He hauled a wooden box camera, tripod, heavy glass plates, bottles of chemicals and a tent to use as a darkroom up and down mountains and onto precipices. He had become a respected landscape photographer when Stanford first approached him, in 1872, with the challenge of photographing motion.

in 1879 invented what he called a "zoopraxiscope," a device that projected sequential stop-action photographs onto a screen, creating an illusion of movement. That invention is the main source of the claim that Muybridge is the father of the motion picture. He took his device on the road, touring France and England to acclaim, and eventually went to work at the University of Pennsylvania. There, he photographed human and animal figures in a wide range of activities, publishing his studies in the 1887 book *Animal Locomotion*. His photographs of, among other things, elephants walking, women dancing and children climbing stairs would influence artists and scientists, opening their eyes to the mechanics of movement. Muybridge, who adopted the Anglo-Saxon spelling of his first name, died in Kingston-on-Thames in 1904 at age 73, leaving a modest estate of some 3,000 pounds. He was recognized for his technical achievements, but as Phillip Prodger argues in his 2003 biography of Muybridge, *Time Stands Still*, "he must be remembered not just as an inventor or technician but as an artist also."

Historian VICTORIA OLSEN *is the author of the 2003 book* From Life: Julia Margaret Cameron & Victorian Photography.

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THIS MONTH IN HISTORY

SEPTEMBER ANNIVERSARIES—MOMENTOUS OR MERELY MEMORABLE

140 YEARS AGO: "WAR IS CRUELTY"
Four months after beginning his "Atlanta Campaign" in Tennessee, Union general William T. Sherman defeats Confederate general John Hood and occupies the Georgia city, September 2, 1864. "Atlanta is ours . . . " he writes President Lincoln, who, historians say, owes his reelection two months later in part to Sherman's victory. Sherman leaves Atlanta on his devastating "March to the Sea" on November 15.

40 YEARS AGO: AH WILDERNESS!
Seeking to preserve those American places "untrammeled by man," President Lyndon Johnson signs the Wilderness Act into law September 3, 1964. Nine million acres (Colorado's Maroon Bells Wilderness is shown here) are protected under a new system restricting human access and activity. By 2004 this "enduring resource" will encompass more than ten times the acreage, roughly 4 percent of the United States.

175 YEARS AGO: YARD WORK
London's Metropolitan Police Service hits the streets September 29, 1829, replacing an outdated system of local watches. Called "bobbies" after their founder, Sir Robert Peel, the men soon become known collectively by their address: Scotland Yard. The heralded detective branch is added in 1842.

25 YEARS AGO: GIRL WONDER
California tennis prodigy Tracy Austin, 16, bests four-time title-holder Chris Evert Lloyd to become the youngest woman ever to win the U.S. Open tennis championship. "I don't think about the youngest, I just think about the champion part," she tells reporters. Austin wins the U.S. Open again in 1981, but by 1983 back trouble will send her courtside as a TV commentator.

230 YEARS AGO: CONGRESSIONAL RECORD
Fifty-six delegates convene in Philadelphia's Carpenters' Hall for the First Continental Congress, September 5, 1774. Goaded by "intolerable" British trade restrictions, the colonists insist on their rights to life, liberty, property and assembly, and invoke a boycott of British goods. But they affirm their ties to mother England—for the moment at least. ✪

—ALISON McLEAN

50 YEARS AGO: TALK TAKES OFF
"This program is going to go on—forever," host Steve Allen warns on the national première of the "Tonight" show, September 27, 1954. Indeed, Allen's format—unscripted chats with celebrities, man-in-the-street interviews and audience banter—sets the standard for late-night talk for the next 50 years. Allen leaves the show in 1957. He dies in 2000 at age 78.

CLOCKWISE FROM TOP LEFT: SCALA / ART RESOURCE, NEW YORK; BETTMANN / CORBIS; ATWATER KENT MUSEUM / BRIDGEMAN ART LIBRARY; EVERETT COLLECTION; TIME LIFE PICTURES / GETTY IMAGES; STUART WESTMORLAND / CORBIS

the signature blonde

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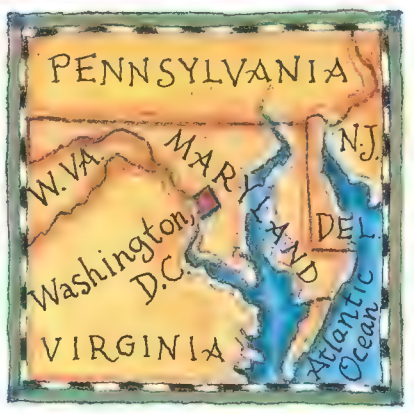
Easy Riders

For whistle-stop campaigning or just rolling down memory lane, nothing could be finer than your own railroad car ~ BY MYRON BECKENSTEIN

AT THE END OF A STRING of sleek silver Amtrak coaches that have just pulled into the Manassas, Virginia, station, a man wearing a weathered porter's hat climbs down from the open rear platform of a green-and-blue car from another era. A woman rushes up to him and asks for help with her bags. But Dante Stephensen isn't a porter. He's the owner of the 78-year-old railroad car, and he has stopped at the station only to collect two guests before heading to Washington, D.C., 30 miles away, for a gathering of the American Association of Private Railroad Car Owners (AAPRCO).



For the next two days, Stephensen and a dozen other private railroad car owners will talk informally with members of Congress, Transportation Department representatives and Amtrak officials about safety regulations and equipment, federal appropriations and other matters affecting private rail car operations. "If they don't roll, we don't roll," says one private car owner, referring to the fact that the cars must be hooked up to Amtrak (or VIA Rail Canada) trains in order to travel around the country. About 150 private rail cars are certified—meaning that they have passed rigorous inspection requirements and thus can be linked to trains that travel up to 110 miles per hour. (Uncertified cars are restricted to local routes.)

Most private rail car owners love to show off their historic vehicles. During an evening reception at Washington's Union Station, 250 invitation-only guests amble through eight restored cars eating hors d'oeuvres prepared in the tiny galleys. The cars, though only ten feet wide, can be opulent, with brocade sofas, pianos, marble sinks, drapery, even chande-

His love of trains is "a childhood thing," says Dante Stephensen (with his private car *Survivor* in Manassas, Virginia, in April).

ELIZABETH WOLF; PETER KROGH

his signature masterpiece

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"From a railroad lover's perspective it chokes you up. It belongs in a museum."

"It's like traveling in your own home," says Dean Levin (top, at Washington, D.C.'s Union Station in April). His 1916 Pullman (above) boasts its original walnut paneling.

liers and fireplaces. Most owners set their dining tables with china and crystal and employ chefs to prepare meals.

"A private car is not an acquired taste. One takes to it immediately," Mrs. August Belmont Jr., grande dame of New York City's Belmont banking dynasty, quipped nearly a century ago. From the late 1800s to the 1930s, private cars were the vehicle of choice for bankers, railroad barons and other wealthy Americans. The *Chapel Hill*, a lavishly restored car at this year's Washington gathering, was built in 1922 for stockbroker E. F. Hutton. Stephensen's car, the *Survivor,* was owned originally by department store magnate F. W. Woolworth; Cary Grant is said to have courted Woolworth heiress Barbara Hutton in it. Private railroading's golden era was ended by the Great Depression, airplane travel and Americans' growing love of the automobile. By the late 1950s, the number of private cars in use had dwindled to fewer than a dozen.

As rail travel declined in the 1960s, railroad companies began selling off cars to museums and collectors. Subsequently, the creation of Amtrak, the federally subsidized rail system, in 1971, boosted private car usage by granting linkup privileges. Over the years, Amtrak's relationship with car owners has sometimes been tense, as everything from the colors that the historic cars can be painted to what age to ban them from the tracks was negotiated.

Some private cars are jewel boxes on wheels. The *San Marino*, a 1916 Pullman-built car, looks stately in a red coat of paint with gold stripes. The rear platform's candy-striped awning and polished brass railing add a dash of old-fashioned charm. The 82-foot-long car is partitioned into eight rooms. Built for railroad man and art collector Henry Huntington, it still has its original Black Forest walnut paneling, brass beds and nickel-silver sinks, ornate fixtures that were standard in the luxury cars that George Pullman first began producing in the 1860s. "From a railroad lover's perspective it chokes you up," says Dean Levin, the car's owner since 2003 and a financial specialist from New Or-

PETER KROGH (2)

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"A private car is not an acquired taste," said a fan. "One takes to it immediately."

A presidential favorite since the 1940s, the *Missouri-Kansas-Texas 403* (before a restoration last spring) is scheduled to be part of a Kerry-Edwards campaign swing.

leans. "It belongs in a museum."

Levin, 37, jokes that he comes from a two-car family. In 1985 his father, Bennett Levin, bought the *Pennsylvania 120*—built for Pennsylvania Railroad executives in 1928—and the family spent six years restoring it. After three trips in the *San Marino,* Dean Levin says, "It's like traveling in your own home."

For Stephensen, a 69-year-old Atlanta restaurateur, his car *is* his home. When not hooked up, it sits on a track spur on a secluded two-and-a-half-acre wooded site in Atlanta. The car's interior is comfortably cluttered. "It was definitely dowdy Victorian," says Stephensen, who shares his quarters with his dog, Sasha, and cat, Spider. "I've made it kind of eclectic Victorian." Blue velvet drapes flanking ornate leaded windows exist happily with cabinets of curios and railroad memorabilia—hats, conductors' uniforms and bandannas from around the world, and a collection of model steam engines. Lining the paneled corridor leading to two bedrooms are photographs of Stephensen with Jimmy Carter, Senate Majority Leader Bill Frist, Henry Kissinger and other notables, many of whom have traveled with him in the car. Sasha, a big, friendly Samoyed, is curled under a table. Acquiring the *Survivor* in 1982 fulfilled a dream, says Stephensen. "I used to see these old cars going by on the rear of the more elegant trains when I wasn't even wealthy enough to buy a coach ticket. It's a childhood thing, and it's been with me my whole life." He was 9 years old when he first tried to get a job on the Chicago & Northwestern Railway that ran by his Winnetka, Illinois, home. He was hired at age 15 to help with track maintenance, and later worked as a fireman, switchman and brakeman. Attending Carleton College in Minnesota in the 1950s, he hopped freights for cross-country trips (which once landed him in jail overnight).

Diane Elliott, AAPRCO's executive director, attributes her members' interest to "love of railroading, being exposed to it when they were younger, enjoying preservation and the history associated with it." Today's owners include corporate executives, dot-com entrepreneurs, publishers, doctors, dentists and at least one airline pilot. Cars cost from $35,000 for a rusty relic to half a million dollars or more for one that is Amtrak-ready. Only ten or so change hands every year.

Many of today's vintage cars have presidential connections, harking back to the days of whistle-stop campaigning. Harry Truman and three other presidents rode the *Missouri-Kansas-Texas 403*, a 1913 private car now berthed in St. Louis. Franklin Roosevelt and John F. Kennedy traveled in Bennett Levin's *Pennsylvania 120*, now based in Philadelphia. Thousands of people lined the tracks from New York City to Washington, D.C. as the *120* carried the body of Robert Kennedy in a 21-car funeral train in 1968. John Heard, owner of the *Georgia 300*, a 1930 Pullman on display at Union Station, armor-plated its platform and bulletproofed its windows when it was chartered for Bill Clinton's four-day trip from West Virginia to the 1996 Democratic Convention in Chicago. The *300* was also part of George H.W. Bush's 1992 campaign train and is to be the last car in John Kerry and John Edwards' campaign trip from St. Louis to Winslow, Arizona, scheduled for August. The historic cars evoke tradition and "make a great photo op," Elliott says of their appeal to politicians.

Chartering helps offset operating expenses. Owners say they can spend $10,000 to $50,000 a year to store a car and keep it in running condition. Amtrak, in addition to doing annual inspections, checks each private car on every trip. If a problem is uncovered, a car is uncoupled from the train for repairs, which can cost thousands of dollars. "A lot can shake loose because of the constant movement," says Elliott. Even when there are no mishaps, Dean Levin estimates that a one-way trip from New Orleans to Washington, D.C. can cost $2,000.

At the Union Station gathering, the rail car owners acknowledge the steep price of their hobby, but mostly they talk of the pleasures of owning vintage railroad cars. "It's a bit of fantasy," says Stephensen, "and a labor of love."

MYRON BECKENSTEIN wrote about Maine's lost colony in February.

JOHN H. KUEHL

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DECLARATION OF GENOCIDE
Refugees from the Darfur region of Sudan, where government-supported Arab militias have burned and looted their villages and forced more than a million people from their homes, take shelter in a Cariari, Chad, camp this past June. More than 180,000 refugees have streamed into neighboring Chad since April 2003. On July 22, a United States Congressional resolution termed the atrocities "genocide"; a day later, the United Nations estimated that 30,000 to 50,000 Sudanese had been killed in attacks against the region's black population. Photograph by Thomas Coex / AFP / Getty Images.

—*HELEN STARKWEATHER*

Comedy Central

"Your Show of Shows," starring Sid Caesar and Imogene Coca, pioneered madcap TV humor in the 1950s

BY OWEN EDWARDS

Coca (with Caesar and producer Liebman, 1954) wept when the program's end was announced.

THE AGE OF modern entertainment was born when the microphone replaced the megaphone as an amplifier of the human voice in the 1920s (a transition we might call "crossing the Rudy Vallee"). The bulky microphone soon took on a symbolic role, signifying the urgency and excitement of radio itself.

In the early days of television—the late 1940s—when newsmen were newsmen and microphones were almost as big as a breadbox—the new medium's radio roots were still visible (or rather, visible for the first time). Microphones often obscured performers, with wires snaking across the stage. Or they hung from booms that descended from above, intruding into the TV picture with amusing regularity.

A microphone used on one of the most popular shows of what is now recalled as the golden years of

[*Microphone from "Your Show of Shows"*
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"If I told Max a joke he didn't like, he'd throw a lit cigar at me."

Caesar (left, with writers Mel Tolkin, Lucille Kallen and Mel Brooks) also helped develop skits (including a spoof set in Tyrolia). In author Ted Sennett's 1977 history of the show, Kallen recalled: "Everyone pitched lines at Sid. Jokes would be changed 50 times."

NBC PHOTOS; EVERETT COLLECTION

television today resides in the Smithsonian's National Museum of American History. It belonged to Max Liebman, the pioneer producer who created "Your Show of Shows," a 90-minute variety program starring comedians Sid Caesar and Imogene Coca. The Saturday night show premièred in 1950 and ran through the 1954 season on NBC.

The boisterous, vaudeville-trained Caesar and the petite, fey Coca specialized in antic comedy that often careened into genius. One memorable skit included a parody of the steamy Burt Lancaster/Deborah Kerr beach scene in *From Here to Eternity*; in it, Caesar wore swimming trunks and black socks. The tremendously popular show shaped comedians and television comedy for years to come, from Nichols and May through Seinfeld and "Curb Your Enthusiasm." It also launched the careers of staff writers Neil Simon, Carl Reiner and Mel Brooks. Liebman's turf, recalls Brooks, was not for the faint-hearted. "Max was heaven and hell," he says. "When he was in a good mood, he was the kindest, sweetest, most loving father imaginable, but when he was in a bad mood, you had to watch out. If I told him a joke he didn't like, he'd throw a lit cigar at me. But I was younger and more agile in those days, so I could always duck."

Reiner wrote skits and appeared in them. "We called Max 'Herr Doktor,'" Reiner recalls, "because he did a lot of doctoring on scripts. For the writers and the comics, he was a great counterpuncher, a worthy adversary who was terrific at taking work and honing it."

Liebman's microphone, an RCA 77DX, quite literally stood between showbiz hopefuls and their dreams; he recorded potential acts with it on acetate disks (magnetic tape was still in its technological infancy). To look at the microphone today is to sense all the aspirations of those who auditioned—mixed, no doubt, with a dollop of stage fright—in a single, numinous object.

When the show ended in 1954, after ratings had begun to slide, Liebman went on to produce a series of 90-minute musical spectaculars called "Max Liebman Presents." He died in 1981 at age 78. Caesar, 82, published his autobiography, *Caesar's Hours*, last year; a video collection of the show was released in June. Coca died in 2001 at age 92.

In 2000, workers renovating the City Center office building in Manhattan forced open a closet that had been locked for 20 years. They discovered a trove of the producer's scripts and memorabilia, including one of his toupees, though it apparently vanished before the artifacts were sent to the Library of Congress.

Brooks says Liebman's "Show of Shows" represents a high-water mark for comedy on TV. "Max put on the equivalent of a Broadway revue once a week," says Brooks. "We used to call the job 'Max Liebman University.'"

OWEN EDWARDS is a freelance writer who is based in San Francisco, California.

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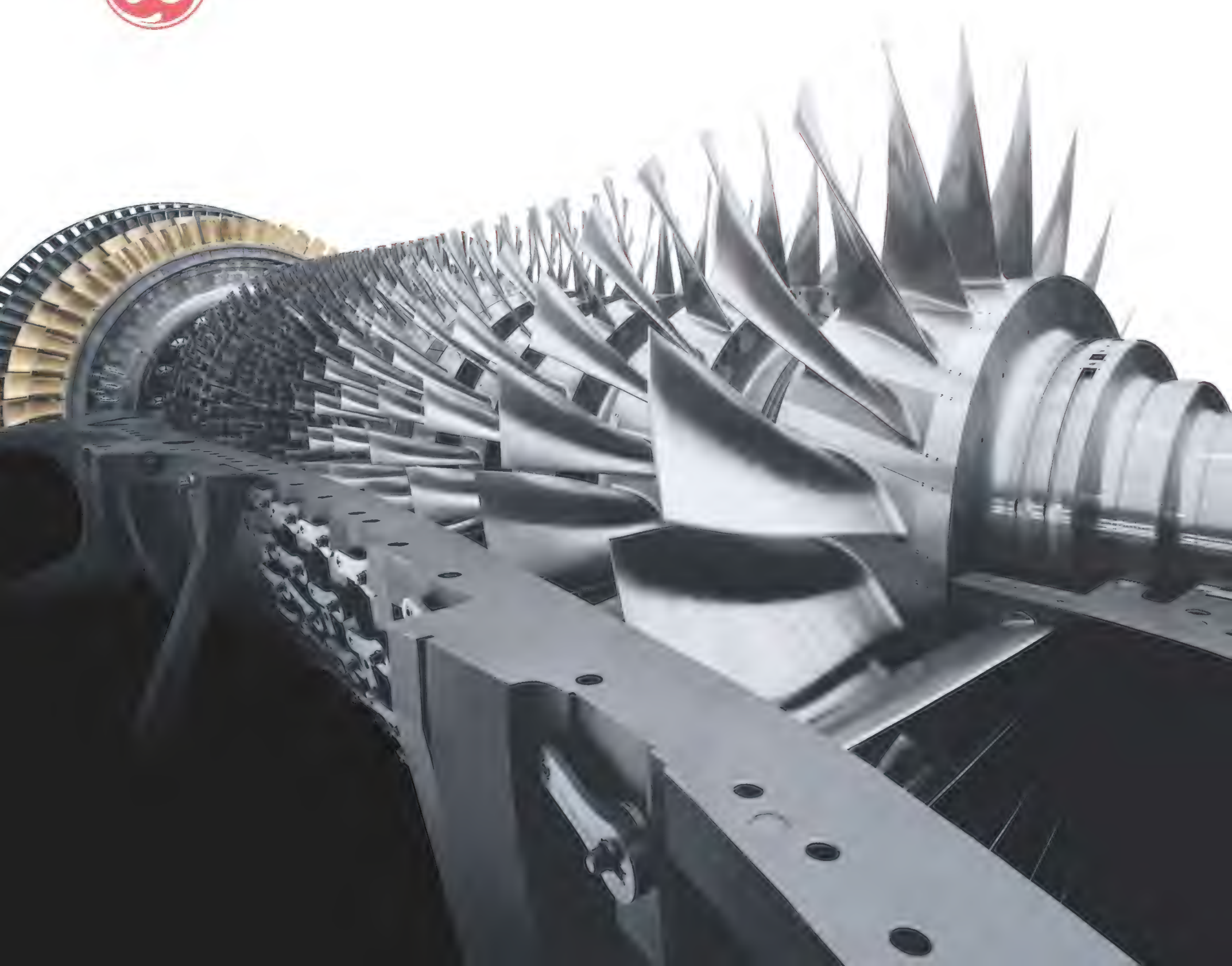
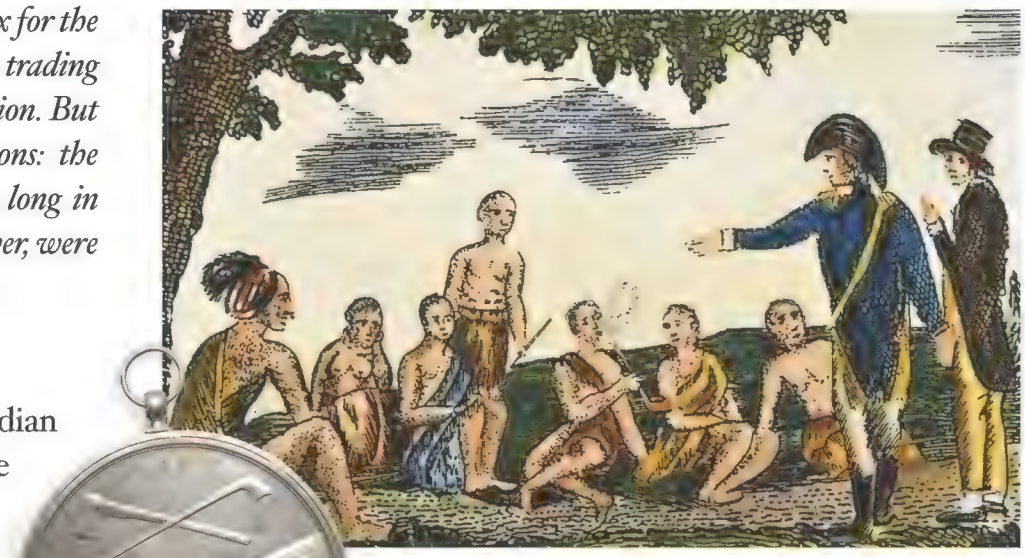


Meeting the Sioux

The corps and the Indians play "Let's Make a Deal." The Indians win

In late September, the expedition encountered the Teton Sioux for the first time. President Jefferson was eager that the corps make trading partners of the Sioux, already recognized as a powerful nation. But from the beginning, misunderstandings clouded negotiations: the corps didn't have an adequate interpreter, and the Sioux, long in control of providing trade goods to other tribes farther upriver, were determined that their role as middlemen not be diminished.



The powerful Teton Sioux found the corps' medals and trade goods to be of little interest.

September 23, 1804 [Capt. William Clark]
We observed a great Smoke to the S W. which is an Indian Signal of their haveing discovered us. . . . Soon after we landed three *Soues* boys Swam across to us, those boys informed us that a Band of Sieux called the *Tetons* of 80 Lodges wer Camped near the mouth of the next River, and 60 Lodges more a Short distance above them, they had that day Set the praries on fire to let those Camps Know of our approach—we gave those boys . . . Tobacco to carry to their Chiefs & Warriors to Smoke, with derections to tell them that we wished to Speak to them tomorrow, at the mouth of the next river.

September 24 [Clark]
Our [canoes] went to the Island for the meet, Soon after the man on Shore run up the bank and reported that the Indians had Stolen the horse we Soon after met 5 Inds. and ankered out Some distance & Spoke to them informed them we were friends, & wished to Continue So but were not afraid of any Indians, Some of their young men had taken the horse Sent by their Great father for ther Chief and we would not Speek to them untill the horse was returned to us again.

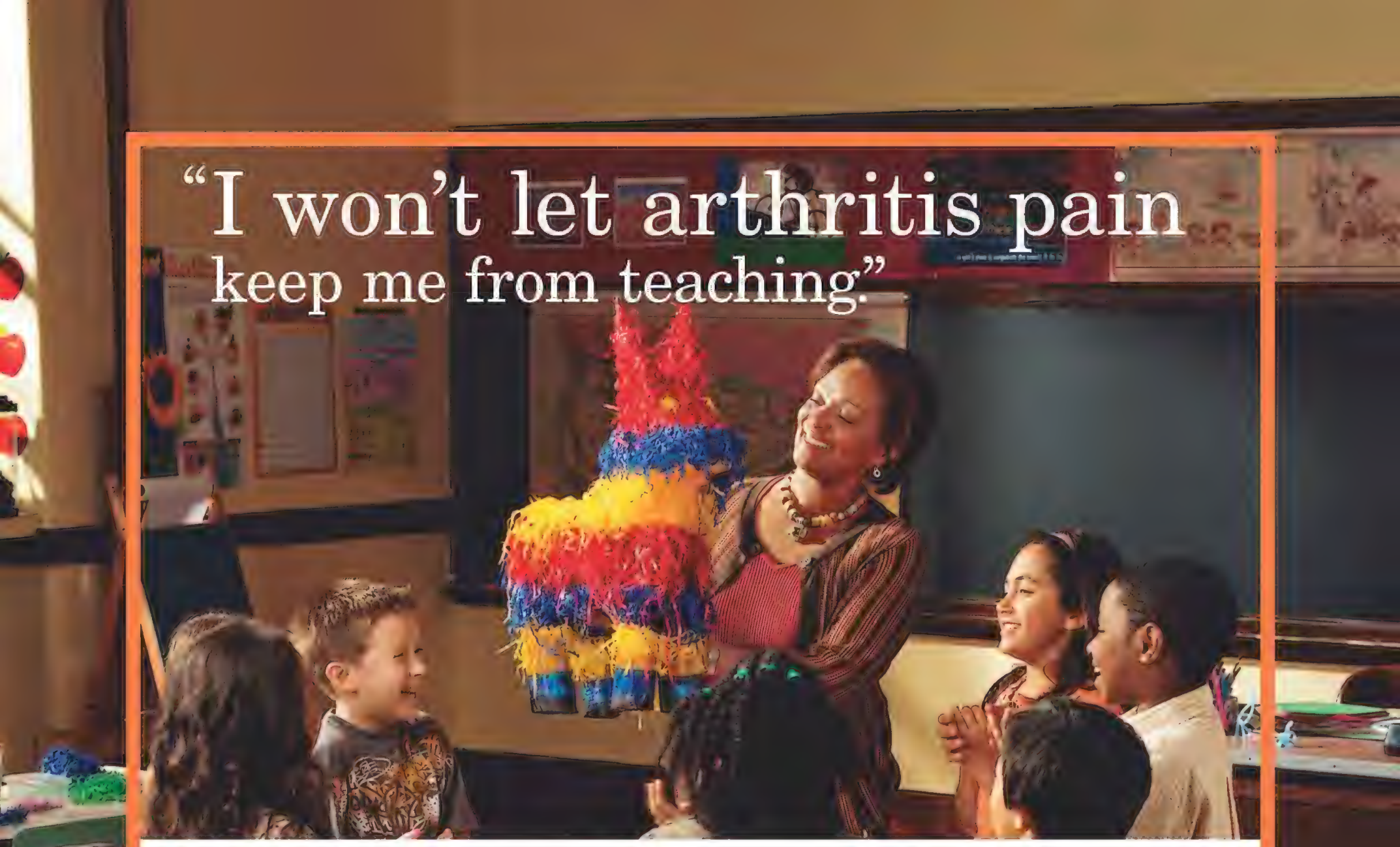
September 25 [Clark]
[In preparing the council with the Indians] we discover our interpeter do not Speak the language well at 12 oClock the Councill Commenced & after Smokeing agreeable to the usial custom [Lewis] Delivered a written Speech to them, I Some explinations &c. all party Paraded, gave a Medal to the grand Chief. . . . We invited those Chiefs & a Soldier on board our boat, and Showed them many Curiossities. . . . I went in a perogue with those Chief who left the boast with great reluctians. . . . As Soon as I landed the [canoe] three of their young men Seased the [anchor] Cable. . . . the 2d Chief was verry insolent both in words & justures declareing I Should not go on, Stateing he had not recved presents Suffient from us, his justures were of Such a personal nature I felt my Self Compeled to Draw my Sword. . . . Most of the warriers appeared to have ther Bows Strung and took out their arrows from ther quves. . . . After remaining in this Situation Some time I offered my hand to the 1 & 2 Chief who refusd to recve it. I turned off & went with my men on board the [canoe].

September 27 [Clark]
The Bank as usial lined with Sioux . . . they informed us that a great part of their nation had not arrived, & would arrive to night and requested us to Delay one Day longer, that they might See us. . . . Capt Lewis . . . and 2 Chief accompaned us to the boat. [Our interpreter] . . . informed us in the night that the Maha Prisoners informed him we were to be Stoped— . . . . we kept a Strong guard all night in the boat no Sleep.

September 28 [Sgt. Patrick Gass]
When we went to shove off, some of the Indians took hold of the rope and would not let it go. This conduct had like to be attended with bad consequences, as Captain Lewis was near giving orders to cut the rope and to fire on them. The chiefs, however, went out and talked with them. . . . They said they wanted a carrot of tobacco, and that if we gave that we might go. The tobacco was given them, and we went off under a gentle breeze of wind.

The trade negotiations had failed. It would take two decades, and the retreat of English traders from the plains, for the Sioux to become part of the St. Louis trade network.

GRANGER COLLECTION, NEW YORK; AMERICAN NUMISMATIC SOCIETY



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Do not take VIOXX if you:
- have had an allergic reaction such as asthma attacks (wheezing), hives, or swelling of the throat and face to aspirin or other medicines called non-steroidal anti-inflammatory drugs (NSAIDs). There are many NSAID medicines. Ask your doctor or pharmacist for a list of medicines that contain NSAIDs if you are not sure.
- are allergic to rofecoxib, the active ingredient of VIOXX, or to any other ingredients in VIOXX. See the end of this leaflet for a complete list of ingredients in VIOXX.

What should I tell my doctor before and during treatment with VIOXX?

Tell your doctor about all your medical conditions including if you have or have had:
- an allergic reaction to aspirin or other NSAIDs
- asthma (a small number of patients with asthma have reactions to aspirin or other NSAIDs)
- stomach problems such as ulcers or bleeding
- kidney disease
- liver disease
- angina (chest pain), a heart attack, or a blocked artery in your heart
- heart failure
- high blood pressure

Tell your doctor if you are:
- pregnant or plan to become pregnant. VIOXX may harm your unborn baby if you take it in late pregnancy. If you take VIOXX while you are pregnant, ask your doctor how you can be on the VIOXX Pregnancy Registry.
- breast-feeding or plan to breast-feed. It is not known if VIOXX passes into your milk and if it can harm your baby. You should discuss with your doctor whether or not to take VIOXX if you are breast-feeding.

Tell your doctor about:
- any other medical problems or allergies you have now or have had.
- all the medicines you take including prescription and non-prescription medicines, vitamins, and herbal supplements.

Tell your doctor right away if you develop:
- serious stomach problems such as ulcer or bleeding symptoms (for instance, stomach burning, vomiting blood, or if there is blood in your bowel movement or it is black and sticky like tar, which are signs of possible stomach bleeding).
- unexplained weight gain or swelling of the legs, feet, and/or hands.
- skin rash or allergic reactions. If you have a severe allergic reaction, get medical help right away.

How should I take VIOXX?

- Take VIOXX exactly as prescribed by your doctor. Your dose will depend on the condition being treated and other medical problems you may have. Do not change your dose of VIOXX or take extra doses unless your doctor has told you to.
- You can take VIOXX with or without food.
- If you miss a dose of VIOXX by a few hours, take it as soon as you remember. If it is close to your next dose, do NOT take the missed dose.
- If you take too much VIOXX, call your doctor, pharmacist, or poison control center right away.

Can I take VIOXX with other medicines?

Tell your doctor about all of the other medicines you are taking or plan to take while you are on VIOXX, even other medicines that you can get without a prescription, including vitamins and herbal supplements. VIOXX and certain other medicines can affect each other causing serious side effects. Keep a list of the medicines you take. Show the list to your doctors and pharmacists each time you get a new medicine. They will tell you if it is safe to take VIOXX with other medicines. Your doctor may want to check that your medicines are working properly together. Especially tell your doctor if you are taking:
- or have taken warfarin (Coumadin®) or any other similar blood thinner within the past 10 days
- theophylline (a medicine used to treat asthma)
- rifampin (an antibiotic)
- ACE inhibitors (medicines used for high blood pressure and heart failure)
- lithium (a medicine used to treat a certain type of depression).

VIOXX cannot take the place of aspirin for prevention of heart attack or stroke. If you take both aspirin and VIOXX, you may have a higher chance of serious stomach problems than if you take VIOXX alone. If you are taking aspirin for prevention of heart attack or stroke, you should not stop taking aspirin without talking to your doctor.

What are the possible side effects of VIOXX?

Serious but rare side effects that have been reported in patients taking VIOXX and/or related medicines have included:

- Serious allergic reactions including swelling of the face, lips, tongue, and/or throat which may cause difficulty breathing or swallowing, hives, wheezing, or shock (loss of blood pressure and consciousness) can occur. These may require treatment right away. Severe skin reactions have also been reported.
- Serious stomach problems, such as stomach and intestinal bleeding, can occur with or without warning symptoms. These problems, if severe, could lead to hospitalization or death. Although this happens rarely, you should watch for signs (for instance, stomach burning, vomiting blood, or if there is blood in your bowel movement or it is black and sticky like tar) that you may have this serious side effect and tell your doctor right away.
- Heart attacks and other serious events, such as blood clots in your body, have been reported in patients taking VIOXX.
- Serious kidney problems can occur, including acute (sudden) kidney failure and worsening of chronic kidney failure.
- Severe liver problems, including hepatitis, jaundice and liver failure, can occur in patients taking NSAIDs, including VIOXX. Tell your doctor if you develop symptoms of liver problems. These include nausea, tiredness, itching, pain in the right upper abdomen, yellow skin or eyes, and flu-like symptoms.

Your doctor may do blood tests and check you for problems that may happen during treatment with VIOXX.

In addition, the following side effects have been reported: anxiety, blurred vision, colitis, confusion, constipation, decreased levels of sodium in the blood, depression, fluid in the lungs, hair loss, hallucinations, increased levels of potassium in the blood, insomnia, low blood cell counts, menstrual disorder, palpitations, pancreatitis, ringing in the ears, severe increase in blood pressure, skin reactions caused by sunlight, tingling sensation, unusual headache with stiff neck (aseptic meningitis), vertigo, worsening of epilepsy.

More common, but less serious side effects reported with VIOXX have included the following:

Respiratory infections
Headache
Dizziness
Diarrhea
Nausea, vomiting and upset stomach
Heartburn
Stomach pain
Swelling of the legs and/or feet
High blood pressure
Back pain
Tiredness
Urinary tract infection.

These are not all the side effects reported with VIOXX. Do not rely on this leaflet alone for information about side effects. Your doctor or pharmacist can discuss with you a more complete list of side effects. Any time you have a medical problem you think may be related to VIOXX, talk to your doctor.

How should I store VIOXX?

- Store VIOXX at room temperature, 59° to 86°F (15° to 30°C).
- Safely throw away VIOXX that is out of date or no longer needed.
- Keep VIOXX and all medicines out of the reach of children.

What else should I know about VIOXX?

This leaflet provides a summary of certain information about VIOXX. If you have any questions or concerns about VIOXX, osteoarthritis, rheumatoid arthritis, pain or migraine attacks, talk to your health professional. Your doctor or pharmacist can give you an additional leaflet that is written for health professionals. This leaflet is also available at www.vioxx.com.

Medicines are sometimes prescribed for conditions other than those described in patient information leaflets. Do not use VIOXX for a condition for which it was not prescribed. Do not give VIOXX to other people even if they have the same symptoms you have. It may harm them.

What are the ingredients in VIOXX?

Active Ingredient: rofecoxib

Inactive Ingredients:

Oral suspension: citric acid (monohydrate), sodium citrate (dihydrate), sorbitol solution, strawberry flavor, xanthan gum, sodium methylparaben, sodium propylparaben.

Tablets: croscarmellose sodium, hydroxypropyl cellulose, lactose, magnesium stearate, microcrystalline cellulose, and yellow ferric oxide.

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Lunch On The Run

How food and drink got to work and school is a lesson in history

WHAT DO LASSIE, Roy Rogers and the Harlem Globe Trotters have in common with the winners of a tennis tournament in Litchfield, Connecticut, 96 years ago? In a word, sustenance.

Lunchboxes sporting pop culture figures, and a thermos awarded to the winning tennis players, are among the 125 items in "Taking America to Lunch," an exhibition at the National Museum of American History. The objects run the gamut from late 19th-century tins reused to carry a meal—like the Green Turtle cigar box, circa 1890—up through the vinyl-covered Barbie lunchbox popular in 1962.

The nickel-plated 1908 thermos, the oldest in the Smithsonian collection, is no mere oddity. After all, the double-glass-walled flask, which for the first time kept coffee warm or lemonade cool, was a technological breakthrough that changed how people ate on the go.

In 1892, Oxford scientist Sir James Dewar developed the idea of a double-layered glass vessel with a vacuum between the layers and silvering on the glass to reduce the transfer of heat. In 1904, two glass blowers in Germany formed a company to produce the first thermoses. And four years later in Connecticut, the Litchfield Club bestowed an engraved thermos on Ludlow Bull and his tennis

Now that his grandfather's thermos is part of an exhibition on lunchboxes (above, a 1950 Hopalong Cassidy box and a 1962 Barbie), curator Roger Sherman, (top) says, "We literally put on the white gloves to handle it."

REGIS LEFEBURE; RICHARD STRAUSS / OIPPS, S. I. (2)

"The messy stacks of lunchboxes in any school cafeteria echoed themes from the messy growth years of television," says exhibition curator David Shayt (from top: Peanuts, 1980; The Beatles, 1965; and Miss America, 1972)

partner, Eleanor C. Lindley, for winning a mixed doubles tournament. "That would have been the Palm Pilot of its day," says the exhibition's curator, David Shayt. "A real prize—a nifty, high-tech trophy."

Bull went on to more scholarly pursuits, eventually becoming an Egyptologist at the Metropolitan Museum of Art. Today, his grandson, Roger Sherman, 49, is a curator at the Smithsonian's American History Museum, where he specializes in the history of physics. In 1985, Sherman was sorting through his grandmother's estate when he came across his grandfather's thermos. It not only revived childhood memories but also connected with his professional interests in technology.

Over the years, Sherman would occasionally employ the heirloom on picnics and other occasions. "I figured if it had survived casual use up to this point, it could keep on serving me," Sherman says. On a chilly day last year, he decanted some water from the thermos—"still piping hot," he says—and made a cup of tea. This past spring, when he saw a museum-wide e-mail describing Shayt's exhibit, Sherman decided to donate the thermos to the Smithsonian. "It's one of the rare gifts from a descendant of the original owner," Shayt says, noting that the best museum acquisitions come with a history of ownership and usage. "I truly wanted this one."

—VICTORIA DAWSON

FROM THE ATTIC

PAINTED PONIES "Word that a carrousel will be installed permanently on the Mall grounds," the *New York Times* reported in 1967, "disturbs some people." Wary of ideas that newly appointed Smithsonian secretary S. Dillon Ripley had proposed—outdoor puppet and musical performances, sound and light shows, popcorn wagons—some in Washington feared that the Institution would become an "ivy-covered Disneyland." But Ripley, recalling boyhood rides on a carousel just outside the Louvre in Paris, faced down his critics and had a 1922 merry-go-round with 33 gliding animals and two chariots put in place that summer in front of the Arts and Industries Building on the National Mall. Complete with a Wurlitzer band organ, its wooden pipes and bellows blasting the "The Sidewalks of New York" and other oom-pah-pah favorites, the carousel was an immediate hit with visitors, who paid 25 cents each to ride it. "One of the best things that's happened," wrote one city resident. In 1981, museum officials replaced Ripley's worn-out merry-go-round with a larger one, a 1947 vintage model with 60 horses (below, the steeds before installation). Today, the carousel's music wafts from a CD player. And though the ticket price has climbed to $2, it's still the cheapest round-trip fare in the city. *—BETH PY-LIEBERMAN*

RICHARD STRAUSS / OIPPS, S. I. (3); NOWITZ / FOLIO; JEFF PLOSKONKA / SMITHSONIAN INSTITUTION ARCHIVES

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Tucson Trunk Sale

At the nation's largest gems and minerals show, Smithsonian curators went looking for the goods

Curators acquired a rare epidote from Kenya (left) and a 19.5-carat green tourmaline from Afghanistan (below).

FROM AFAR, the scene in the hotel parking lot in Tucson last February had all the appearances of thieves fencing stolen goods, but it was really all about research. Smithsonian gems and minerals experts Jeffrey Post, Paul Pohwat and Mike Wise crowded around the open trunk of a tan Chrysler Sebring. Campbell Bridges, a British gems dealer from Kenya, pulled from the trunk a package the size of a sandwich. Unwrapping it, Bridges revealed a five-inch piece of an exceedingly rare mineral, epidote. In the bright desert sunshine, the lustrous, dark green crystal sparkled. The three experts gasped.

The specimen had come from a remote Kenyan pit mine whose walls had collapsed. Bridges said that an interested buyer was expected in the next 15 minutes. Post and colleagues hurriedly conferred, then offered the dealer a price that Pohwat would describe only as in the low five figures. Thus the epidote joined some 375,000 gems and minerals at the Smithsonian's National Museum of Natural History.

For two weeks at the Tucson Gem and Mineral Society's show, Post and his colleagues bartered, traded and bought pieces, as well as shared information with dealers, collectors and experts. Post, 50, says the show "is the single most important event for adding to our collection."

In 23 hotels and motels across town, dealers rented rooms, installed elaborate glass cases and displayed exotic minerals and uncut gemstones. A tent held a half-dozen ten-foot-tall purple geodes from Brazil. Tables loaded with South American rocks and African fossils crowded hotel courtyards. In the convention center besuited jewelers displayed so many rubies, emeralds, sapphires and tourmalines that the stones resembled jelly beans in a candy store window.

It was 50 years ago that nine local dealers first gathered at a Tucson elementary school to show their collections. The show may well have remained a local attraction without the involvement of Smithsonian curator Paul Desautels, who delivered the keynote address in 1961. Other museums and serious collectors soon signed on, until the show became what Desautels, who died in 1991, described as the "New York Stock Exchange of the [mineral] world."

This year, Smithsonian experts returned from the show with 58 pieces that the museum bought or received as gifts. Their prize acquisitions? Twin alexandrite crystals from Brazil and a green tourmaline from Afghanistan. Still, says Post, "the excitement for me is what a dealer might pull out of his bag in the back of his car."

—*JOHN F. ROSS*

HURRY IN

On view through December 12, "Playful Performers" is the first exhibition for and about children at the Smithsonian's National Museum of African Art. Costumes and masks (left, an example from the Yoruba of Benin) worn by children at masquerades in many African nations drive home a universal truth: all kids love to play dress up.

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RENÉE COMET (2); FRANKO KHOURY / NATIONAL MUSEUM OF AFRICAN ART

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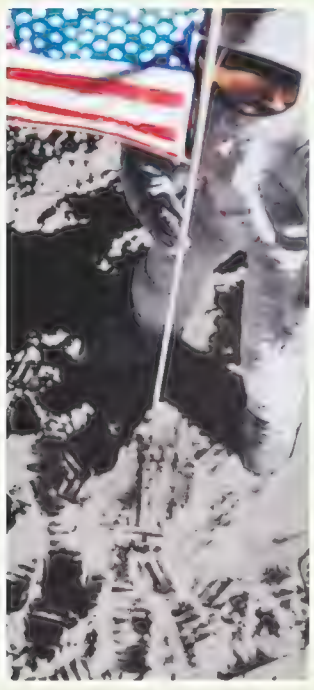

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NATIONAL MUSEUM OF THE AMERICAN INDIAN

BY THE PEOPLE

The first new museum on the National Mall in 17 years was created in close collaboration with Native American communities throughout the hemisphere

BY THOMAS HAYDEN ~ PHOTOGRAPHS BY ROBERT LAUTMAN

NATIONAL MUSEUM OF THE AMERICAN INDIAN, SMITHSONIAN INSTITUTION; P. 51 ROBERT LAUTMAN

The National Museum of the American Indian occupies the last building site on the National Mall. With more than 350,000 square feet of space, the new facility cost almost $200 million to design and build. To give it the sinuous, natural look of a wind-swept mesa, blocks of Minnesota Kasota limestone were cut and milled. Inside, more than 8,000 objects from all over the hemisphere are on display, from ancient artifacts (left, a 1,200-year-old Peruvian headdress ornament) to contemporary, abstract paintings.

THE MÉTIS OF WESTERN CANADA know a thing or two about traveling. Descended from Europeans and the Native people they encountered while trading furs in the 18th century, the Métis and their culture were literally born on the move. So it was in keeping with tradition that Jacinte Lambert, a Métis woman from the Saint-Laurent community on Lake Manitoba, climbed behind the wheel of a flatbed truck in the fall of 2003 and headed south with a most unusual cargo: a vintage 1950s Bombardier snow bus.

The ungainly "Bomber"—it looks something like a school bus on tank tracks—is the workhorse of commercial ice fishing in Manitoba, used by the Métis to ferry their catch of pickerel, perch and sauger from frozen lakes back to town. So when curators from the Smithsonian Institution's National Museum of the American Indian (NMAI) visited Saint-Laurent looking for objects to represent the Métis, the community decided to send a Bombardier. On her 1,600-mile drive south with her husband to Washington, D.C., Lambert says, "Wherever we stopped, people kept coming up to us to look. I guess they didn't know what it was."

The Métis' snow bus is one of some 8,000 artifacts and artworks that will be on display when the NMAI, 15 years in the making, opens on the National Mall September 21. It's a good example of the lengths to which the new museum has gone to make it inclusive of groups large and small from all over the Americas. The $199 million home of one of the most important collections of Native American art and artifacts in the world will display plenty of arrowheads, beadwork and pre-Columbian gold objects. But the museum—established by Congress in 1989 as a "living memorial" to Native cultures, and conceived, designed and curated in large part by Native Americans—will also exhibit items that speak in other ways to contemporary Indian experience. Thus the Bomber, the centerpiece of the Saint-Laurent Métis exhibit (which also includes a small stage where visitors can practice the Red River Jig to video instruction). "Hardly anyone knows what it means to be Métis," says Lambert. "Fishing is a big part of our life, and we wanted to show people who we are now."

Museum curators and officials spent years consulting with representatives of Indian tribes from throughout the Western Hemisphere, from the Arctic Circle to the tip of South America, and among the key recurring opinions, NMAI director W. Richard West Jr. says, "was the notion, a directive really, 'Don't you dare indicate that we are a historical relic.'" The museum's opening comes at a time of a Native American renaissance, says West, as a new generation fights to achieve what he calls "a happy post-colonial hereafter" of increasing optimism and self-determination. West, 61, a prominent Albuquerque lawyer and a member of the Cheyenne and Arapaho tribes of Oklahoma, was tapped in 1990 to run the museum. Thirty percent of the staff he's hired are Native American. West says "We are still here" was the message Native political leaders, elders and communities most wanted the NMAI to get across to non-Native visitors; the museum's success or failure in the eyes of Native Americans may hinge on how well it conveys that idea.

It's a tall order: Native people have long had a testy relationship with museums. "We love them because they have our stuff, but we also hate them because they have our stuff," West says. Much of the NMAI's stuff was acquired in ways today's curators would never countenance.

Most of the 800,000 artifacts and 125,000 historical photographs in the museum's collection are from a vast personal hoard assembled in the first half of the 20th century by New York engineer and investment banker George Gustav Heye. Heye cuts an improbable figure as the NMAI's patron saint. A beefy man standing 6 feet 4 inches and reputed to smoke 18 cigars a day, he was the very picture of Euro-American entitlement, satisfying his collecting urge with family

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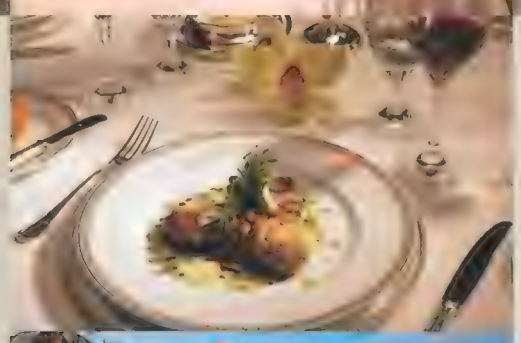
THOMAS HAYDEN is a senior writer for U.S. News & World Report. *ROBERT LAUTMAN specializes in architectural photography.*

Between the "boxcar" collecting style of the late George Gustav Heye (top) and National Museum of the American Indian director Richard West (above) lies a major philosophical gulf. Yet Heye's objects and West's ethics have created a dramatic new kind of museum.

NATIONAL MUSEUM OF THE AMERICAN INDIAN, S. I.; LUCIAN PERKINS / WASHINGTON POST; P. 53 ROBERT LAUTMAN



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Going far beyond beadwork, the NMAI showcases modern artists like Rick Bartow, a Vietnam veteran and Yurok Indian from Oregon. Bartow's *Raven* and works by artists like George Morrison and Allan Houser challenge the stereotypes of "Indian art."

money and contributions from wealthy associates. Heye's original Museum of the American Indian opened to the public in upper Manhattan in 1922, but had fallen into disrepair by the time Congress passed the Smithsonian's NMAI charter in 1989. Heye's founding role is recognized at the George Gustav Heye Center, located in the Alexander Hamilton U.S. Customs House at the opposite end of Manhattan, in New York's financial district. The first of the NMAI's three facilities, the Heye Center opened in 1994 and will continue to host exhibitions after the Mall museum opens. But starting in 1999, the bulk of Heye's collection was moved from his original museum and a Bronx warehouse to the NMAI's main curatorial facility, the Cultural Resources Center in Suitland, Maryland. Most of the objects will remain there, with a tiny portion shown in the Mall museum or lent to tribal museums throughout the hemisphere.

Heye was a voracious collector, accumulating nearly a million Native artifacts in his lifetime. (The first was a deerskin shirt purchased from an Indian foreman on a railway engineering job Heye oversaw in Arizona in 1897.) Heye was de-

WALTER LARRIMORE / NMAI, S. I.

scribed as "a boxcar collector" by an unnamed anthropologist quoted in a *New Yorker* article three years after Heye's death in 1957. "George would be fretful and hard to live with until he'd bought every last dirty dishcloth and discarded shoe and shipped them back to New York," the anthropologist said. But he added that Heye "didn't give a hang about Indians individually, and he never seemed to have heard about their problems in present-day society."

Heye leaves a mixed legacy. Perhaps his wealth would have been better spent helping Indians rather than accumulating their worldly goods. Yet if he had not combed reservations, sponsored archaeological expeditions and bought up other private collections in America and Europe, the NMAI might have much less to show. And while he was once charged with grave robbing for excavating a Munsee-Delaware cemetery in New Jersey (he was acquitted), Heye also on at least one occasion returned an artifact he had acquired. The Hidatsa people of North Dakota, facing severe drought in 1938, requested a ceremonial bundle Heye had purchased from a missionary in 1907. The bundle, which included the skulls of Hidatsa holy men, had been on display at the Manhattan museum, yet Heye agreed to return it, receiving a buffalo medicine horn and an Indian name, *Isatsigibis*, or "Slim Shin," in return.

Such respectful cooperation has long been in short supply. Museums, including the Smithsonian, have typically treated Native Americans as exotic curiosities. "The museums personified Western civilization, and Native Americans were outside of that, and often portrayed as quite subhuman," West says. The NMAI has worked to correct that regrettable legacy by returning thousands of objects to their home communities, consulting Native groups on how they would like to be portrayed and involving them in creating exhibits.

In practice, that approach has made for some surprising exhibitions, like the Métis snow bus and a display from the American Indian Center of Chicago—both part of an exhibition called "Our Lives"—that opens not with a tepee but a mock-up of the brick-and-steel doorway of its headquarters in the heart of the city. A community center serving the Chicago area's 30,000 Indians, the Indian Center's display includes the kitchen table-size "Chi-Town drum," an elk hide powwow drum that the center uses to teach traditional songs and dances; keeping the heritage alive is especially important now that 64 percent of Native Americans live in urban areas. Indian Center director Joe Podlasek, whose ancestry is part Ojibwa and part Polish, says most Americans "just don't get who we are. I believe it's not that they don't want to get it, but they don't have exposure. So rather than complaining about it, we're taking action in a positive way."

On opening day, the NMAI will feature three major exhibitions curated in collaboration with 24 Native groups from throughout the Western Hemisphere. "Our Universes" explores Native views of the world, both physical and spiritual, including the traditions of Natives from South and Central America, the Great Plains and the far north. "Our Peoples" traces Native histories from the perspective of tribal groups themselves and presents, says NMAI facilities planning coordinator Duane Blue Spruce, a Laguna and San Juan Pueblo, "a side of history that most people don't know and probably would prefer not to know." Among the displayed artifacts are tribal shields, guns and treaties from the Indian Wars and forced relocations. Still, West says, "This is not just a museum about the Native holocaust—that's important, but it's not the totality. We were here before, we're here after, and we'll be here into the future far beyond."

Of course, social problems, like poverty and substance abuse, are still a reality for many American Indians, but at the same time an increasing number of Native doctors, lawyers and businesspeople are flourishing. The museum will address the modern face of Native Americans in the "Our Lives" exhibition, which Podlasek says will show "Indian people walking the professional and the traditional lives together." Artifacts will include the 1984 Olympic gold medals won by Canadian Mohawk kayaker Alwyn Morris. For the beleaguered Canadian Métis, who for generations faced discrimination from both whites and full-blooded Indians, involvement in the museum is helping the community rediscover pride in its heritage. "Now people from all over the world will know we exist," Lambert says. "It seems like people are finally accepting us."

The "Window on Collections" exhibit, on the third and fourth floors, will offer a glimpse of the artworks and objects, such as projectile points, dolls, beaded objects and an-

Native people live all across the Americas, a fact reflected in the geographic diversity of the NMAI's collection of Native art—ranging from an Omaha dancer silkscreen from Oklahoma to a carved ivory polar bear (above) from Alaska's Bering Strait.

WALTER LARRIMORE / NMAI, S. I.; ERNEST AMOROSO / NMAI, S. I.

imal figures, usually stored at the Suitland facility, where even the NMAI's preservation efforts have been influenced by the collaborative philosophy of the museum. Since 1998, the NMAI and other Smithsonian museums have returned thousands of sacred objects and human remains in compliance with federal repatriation laws. Many of the ceremonial artifacts still in the collection, says museum spokesman Thomas Sweeney, a member of the Potawatomi tribe, are considered to be "living objects" by Native communities, requiring light and air; so, unlike most museum storage facilities, the storage and archival areas have windows. And because, according to tradition, some Pueblo pots need to be "fed" now and then, they will be offered a pinch of cornmeal (put on a dish and set before the pots for a few hours), to the dismay of some conservators worried about rodents and insects.

The facility also serves as a place where people can use artifacts not created for display in traditional rituals. "They can come out from under the glass," West says. "We're trying to promote the original cultural context through interactions between the originators and the objects under our care."

The NMAI has also collected materials important to the daily lives of modern Natives as well as work by contemporary Native artists. Indeed, two of the opening exhibitions highlight the work of two of the most important 20th-century Native artists, Allan Houser and George Morrison. The exhibition, some 200 paintings, drawings and sculptures, most on loan from other museums and collections, will be presented in the Mall museum's rotating temporary exhibit hall on the fourth floor. Other "landmark object" artworks on display will include a contemporary bronze sculpture by Pueblo artist Roxanne Swentzell of Santa Clara, New Mexico, and a new, 20-foot totem pole carved by Tlingit Nathan Jackson of Ketchikan, Alaska.

The "Our Lives" exhibit explores the sensibilities of Native communities, including the ways Indian artists such as Yakima Vivian Harrison (her basket, above) and Kiowa Teri Greeves (beaded sneakers, below) blend ancient techniques and modern materials.

The building itself is full of symbolism. Though germinated in the U.S. Capitol, just 500 yards away, the NMAI's roots stretch far out into Indian Country, one term for the places and communities where Native Americans are most at home. From 1991 to 1995, museum representatives held meetings throughout North America, from Anchorage and Vancouver Island to Oklahoma and New Mexico. And they invited community leaders, artists and elders from throughout the hemisphere to Washington, seeking input not only on the exhibition materials but on the building's design.

Much of that was carried out by a team led first by Ottawa-based Blackfoot architect Douglas Cardinal, who left the project in 1998 over design disagreements. Cherokee and Choctaw architect Johnpaul Jones of Seattle, a member of the original design team, saw the museum to its completion. Clad in rough-cut, tawny Kasota limestone from Minnesota, the sinuous building takes on the appearance of a wind- and water-carved canyon wall. The museum's main entrance faces east, a tradition common to many Native groups. It includes space for gatherings and celebrations and plenty of ventilation, to accommodate religious ceremonies that include the burning of things like sweet grass and sage.

Construction started with a visit from a group of Indian elders who surveyed the site. "Boom! They hit the ground and said, 'This is the heart of the building,'" Jones recalls. That spot became the center of the soaring Potomac hall—"where the goods are brought in" in Algonquian, the language of many of the local Native people in what is now the greater Washington, D.C. area. A glass oculus sits in the 120-foot domed ceiling, connecting the space to the sky above and representing the smoke hole found in many traditional Native dwellings. Eight large glass prisms set into a window on the south side cast rainbow-hued light onto the hall's floor and walls.

Among the design principles that set the museum apart, perhaps the most evident is the blurring of the line between outside and inside. A stone pathway leading into the building continues inside, and large windows offer a preview of the museum's interior; from the inside, glass walls not only offer views of the Mall and the Capitol but also help maintain a connection to the environment. "In Native architecture you shouldn't see the line between the buildings and the outside environment," says Donna House, a Navajo and Oneida ethnobotanist who helped design the museum's distinctive landscaping. "The landscape flows into the building, and the environment is who we are. We are the trees, we are the rocks, we are the water. And that had to be part of the museum. The building is an extension of the landscape."

Most visitors will enter the site from the northwest and wend their way toward the eastern entrance along a pathway that leads through a lowland forest ecosystem of Native plants and a waterway that cascades toward the windows of

WALTER LARRIMORE / NMAI, S. I. (2)

With its tawny, curved limestone walls, the NMAI looks like nothing else on the National Mall. Artists and craftspeople left their mark on the interior as well—the hand-adzed carving above, by artist Duane Pasco, decorates the museum's gift shop.

the first-floor cafeteria (where only Native-inspired foods are served). Along the way, visitors pass a wetlands area recalling Washington's origins as marshland. Ancient boulders represent the oldest inhabitants of the Native universe in many cultures. Forty "grandfather rocks" from Canada, weighing 13 to 28 tons, greet visitors near the entrance, and four smaller stones from Hawaii, northern Canada, Maryland and Chile's Tierra del Fuego are placed at the compass points to mark the four cardinal directions. "As you move from north to east," says House, "the stones and the plants are there to greet you. The idea is to help you shed the Mall experience and prepare you for a Native experience and point of view." At the south entrance, where school groups will arrive, the land is planted with traditional Native crops, including "the three sisters" of corn, beans and squash.

Under the dome of the Potomac hall, a 22-foot screen greets visitors with "welcome" in hundreds of Native languages. For a while after the museum debuts, Native craftspeople will demonstrate traditional boat-building skills. Elevators decorated with Native sun and bird symbols lead to the fourth floor, where visitors can see a movie that features artifacts such as peace pipes and South American pots, as well as voices and images of contemporary Native life. From there it is a few steps to major exhibition spaces, including the "Our Peoples" gallery, which explores Native history. By design, that gallery empties into a "pause area" featuring a view of the U.S. Capitol.

A broad staircase curves along the western edge of the interior space, like switchbacks on a mountain trail, to the "Our Lives" exhibit and temporary gallery on the third floor. At every step, tiny details reward the careful observer, from the wampum shells embedded in the gift shop counters to inlaid designs on the front plaza that reflect the constellations as they appeared on the museum's founding day, November 28, 1989. As for the symbolism of Native America's new home sitting on the last remaining spot on the Mall, West just chuckles. "Oh, it's beyond fun. Native people should have been here much earlier, but we're at the head of the Mall. It's absolutely poetic irony."

The history of the past 200 years or so has made Washington, D.C.—and especially the Mall—into not just the seat of national power but also the official repository of the national memory. But this was a site of power and memory long before Pierre Charles L'Enfant designed the city's stately avenues and grand architecture in the 1790s. Like all of America, this spot too is Indian Country. And while official recognition of that fact has perhaps been too long in coming, it has not come too late. "Indian people have been coming to Washington for centuries," says spokesman Sweeney. "Now we have a home of our own here in what was and still is a Native place."

ROBERT LAUTMAN (2)

A Yakima on Washington's Columbia River: "We have survived," LaDuke says, "and intend to be here in another 500 years."

"A Long Time Coming"

Prominent American Indians reflect on their peoples, their past, their humor—and their new museum

Ben Nighthorse Campbell

71; U.S. SENATOR (REPUBLICAN); COLORADO; NORTHERN CHEYENNE

YOU NEED TO START from one very, very important truism. And that is if you look at Indian culture, and all other minority cultures in America, there's a misconception on the part of the majority, dominant people, the Anglos, that all those minorities are alike, that is, "They want what we have." Other minority communities, though, came to this country, so they could only go one place and that was up. They had everything to gain. Indians are totally different. They had everything to lose. The primary driving force of American Indians is not to gain what the majority culture has. The primary driving force is not to lose any more than they've already lost. And so they've always felt that they're under assault because they continually have lost and lost over the centuries. A lot of people don't understand that. They say, "What's the matter with those Indians? How come the Indians aren't happy with what they're getting?"

I think most Indians are proud of this museum because it's finally going to tell the story of American Indians. But there is no doubt there is sort of a double standard—it's not just in Washington, it's with most Americans. They all saw *Dances with Wolves*, and Americans sort of romanticize Indians and have sort of a selective recognition. They like the romantic idea of Indians, their independence, that they're close to the earth, their religious beliefs and so on. But when it comes to actually helping them, they step back a bit. And they just don't know how to deal with them.

Andrew "Drew" Lacapa

45; COMEDIAN; FORT APACHE RESERVATION, ARIZONA; APACHE, HOPI AND TEWA

ACTUALLY, I HAVE a boring life. I hate to say this, but I think I'm so dysfunctional that performing is a great relief for me, otherwise I'd be robbing banks and hurting people. This way I get to be straightforward, I tell you the truth and if it hurts, well, I won't apologize but I will explain it better the next time.

My first show in New York City was on Ellis Island—"where people got into the United States." It was so oxymoron, so strange. I'm very happy to cross over to the white world, and I do that in my comedy. But when I go onstage I remind them that I am not politically correct, and after that everybody's able to take it. I say that Indian people tease you when they love you, and the more you can take it, the more we're going to love you and the more we're going to tease you. So I say, white folks, I'm going to love you up a whole bunch.

I explain to people where I come from, because it's important to get our voice out there, because some people don't think we exist. After being a Marine Corps medic, I went to work for the Indian Health Service as a nursing assistant, basically a bedpan pusher. It's a humbling experience, watching the chronically ill become more chronic. I left that job in 1996. I guess I'm doing all right. I can buy things outright and not put them on layaway, and that's kind of nice.

Winona LaDuke

45; ACTIVIST, WRITER, GREEN PARTY VICE-PRESIDENTIAL CANDIDATE IN 1996 AND 2000; WHITE EARTH RESERVATION, MINNESOTA; OJIBWA

I WORK IN REALLY CONSERVATIVE communities in northern Minnesota. You have a Native community surrounded by non-Indians who don't even know what kind of Indian you are. They refer to you as "the Indians." They have no idea about our history. They know little about our culture. And so to have something in Washington that says that Native people are important, that we have a museum on the Mall, this is very significant. When people get to define themselves in their own terms—and sometimes speak frankly about their own history—that is a liberating feeling. America views itself as a multicultural society, which is basically a Eurocentric American society flavored with other people's culture. You can go eat some soul food, you can go listen to some jazz or some blues, and you can go see a powwow—the melting pot mythology. Native Americans are people who didn't melt in. We have survived, and we intend to be here in another 500 years, and we will be at the center of determining what that future looks like.

NATALIE B. FOBES

Jock Soto

39; PRINCIPAL DANCER, NEW YORK CITY BALLET; NEW YORK CITY; NAVAJO

TO HAVE THIS MUSEUM, it's one of the biggest deals I think has ever happened. I think it should open a lot of minds. I hope that America will come look at what we have gone through, through the years. And how far we have come. It's been a long time coming.

Robert Mirabal

37; MUSICIAN, 2003 NATIVE AMERICAN MUSIC AWARDS ARTIST OF THE YEAR; TAOS PUEBLO, NEW MEXICO; TAOS PUEBLO

I'M STILL LIVING on a reservation in New Mexico. Some people came out from the museum looking for items—they bought two of my flutes. I think it's more of an urban Indian excitement, the people who fought to get the museum on the Mall, et cetera. Native people are excited, but just not to see old artifacts. We already know who we are. What's happening is beautiful, but beauty only lasts a certain time—our language is gone, the traditional values have gone into capitalistic ideals. There are bigger issues here. Too many museums are based on the past, but Native people are still living, breathing people. Our culture is beauty as well as turmoil. There's nowhere but up to go from here.

Ted Mala

58; PHYSICIAN, SOUTHCENTRAL FOUNDATION, ALASKA NATIVE MEDICAL CENTER, ANCHORAGE, ALASKA; INUPIAT

MY FATHER WAS THE FIRST Native American movie star, Ray Mala. He did about 17 films starting around 1920, until he passed away on a Hollywood set in 1952. He played in movies when they were fun. No unions. No specializations. One day he was an actor, the next day a cameraman. He ran away from a Quaker boarding school in Candle, Alaska, and worked for a studio because he could crank the handle of a camera better then anyone else in the cold. His first movie was *Igloo*, made in Point Barrow around 1930. *Eskimo* was released in 1934. I was born in Santa Monica, California, and we commuted to Alaska. I was raised in a Catholic boarding school in L.A. after he and my mother died. My daughter, Galina, named after my Russian mother, lives in L.A. and works as an actress.

I feel that sometimes people think that the right place for Native Americans is in a tepee or igloo or some type of rural setting. One of the stereotypes we have to overcome today is showing people we live in traditional or semitraditional ways, but we're also doctors, lawyers, nurses, teachers, judges and so on. I'm a past president of the National Association of American Indian Physicians, and I founded the Institute for Circumpolar Health Studies in Alaska. I've been on a quest for many years in my life looking at what works and what doesn't in the North, especially in the Arctic. What are the roads to health? How have we survived the most harsh climate on the earth?

The opening of the museum is a symbol of recognizing the relationship between the sovereign nations of Native America and the United States. It signifies that the people of the United States finally recognize that historically they are visitors to this land and newcomers. It's also a celebration of us joining hands and moving forward together.

Peterson Zah

67; FORMER PRESIDENT OF THE NAVAJO NATION; ADVISER, ARIZONA STATE UNIVERSITY; TEMPE, ARIZONA; NAVAJO

IT SEEMS LIKE PEOPLE just don't understand you, they'd much rather have you assimilate into the dominant culture. For me it's not really an either-or situation. I'm a Navajo and feel comfortable among my people and speak my language, but at the same time I work in the majority culture.

Years ago people were able to be overt about what they took from Indians. Now it's through government action and the federal court system that they continue to diminish and destroy the rights of indigenous people, and all that talk about the dignity of people goes out the door. It's something the young American Indian people have to educate themselves about, so they become more aware and hopefully, in the future, they can prevent it.

Navajo rodeo in Arizona: "We already know who we are," says Mirabal.

JAN SONNENMAIR / AURORA

Ron His Horse Is Thunder

46; PRESIDENT, SITTING BULL COLLEGE, STANDING ROCK RESERVATION, NORTH DAKOTA; HUNKPAPA BAND OF THE LAKOTA SIOUX NATION

AMERICANS TEND to clump us all together, not realizing there are vast differences between Indians of various geographic regions, as well as between Indian tribes within those regions. Too often history books portray us as either savages that stood in the way of progress or as naturalists in tune with nature. But what they don't show is that we made contributions to the United States. They don't tell about how over 50 percent of the world's current food supply comes from plants that Native Americans cultivated. Rarely do they ever show that Native Americans practiced horticulture and we used science to do that. Another contribution is medicine. A

CONTINUED ON PAGE 61

Lower Elwha Klallam softballers—the Bravettes—in Port Angeles, Washington: "We're also doctors, lawyers, nurses," says Mala.

good many current medicines in this world came from plants that Native Americans knew about and knew how to use to take care of certain ailments. And they shared that knowledge with the non-Indian world. People need to know that Indians used math and science for their daily lives, prior to the coming of the Europeans.

Litefoot

35; RAPPER, ACTOR; TULSA, OKLAHOMA;
CHEROKEE NATION OF OKLAHOMA

WHEN OUR PEOPLE are relegated to only what we were and only who we have been, that's very unfortunate. Mainstream society looks at us in one way, and that makes it hard for those of us out there attempting to carry on our traditions and yet at the same time advance ourselves. If you're Native American, it seems difficult for people to see you as a doctor, or as a rapper. When they see us it's always 100 years ago, or 200 years ago. It's never in 2004. I don't want to perpetuate a feeling of "Oh, those ungrateful Indians, no matter what you do for them it's never enough," but sometimes that pill just tastes like how that pill tastes. Civil rights hasn't even happened for Native American people in this country. Is this museum just one more thing that might cement us into yesteryear? If it only presents that aspect of who we are, do I think it's a good thing? No. When someone who knows nothing about Native Americans walks out of there, I hope they're not just limited to who I was, but who I am, and they know that our fight isn't over.

Billy Mills

66; 1964 OLYMPIC CHAMPION, 10,000-METER RACE;
SPOKESMAN, RUNNING STRONG FOR AMERICAN INDIAN YOUTH;
FAIR OAKS, CALIFORNIA; OGLALA LAKOTA

AS PEOPLE LEARN from the museum about culture, tradition, spirituality, they can better understand the signing of our treaties, which was our defining moment as nations. The government is not responding as it should respond when 5 to 20 percent of all of the cases before the United States Supreme Court pertain to the continual violation of our treaty rights. Obviously, going through the museum is not going to solve all these problems. But it can create a passion within. You might find some youngster, some non-Indian youngster in the eighth grade, for example, going through there. And maybe they have been to a football game at their dad's university. And they see how their dad's university has an Indian as a mascot. And all of a sudden they

JOANNA B. PINNEO / AURORA

On the St. Regis Mohawk Reservation, the New York-Canada border: "There's so much going on in Indian Country," Lindquist says.

see how their dad knows nothing about the information in the National Museum of the American Indian. So as they start finding this passion, they start understanding that ultimately we may be able to change the fact that we are simply looked upon as a sports team's mascot.

Davina Two Bears

35; PROGRAM MANAGER, NAVAJO NATION ARCHAEOLOGY DEPARTMENT; FLAGSTAFF, ARIZONA; NAVAJO

I DON'T KNOW how to say it without sounding bitter, but there's so many bad things that happened to Indian people with the coming of the Spanish and English and French. Native people suffered. They were killed off by smallpox and forced off their lands. We weren't even citizens until the 20th century, and yet we were the original inhabitants. The museum is a symbol that we're an integral part of this country's history. We've been here for more than 10,000 years, and the museum stands for our resistance and our future and it honors our ancestors.

Interviews by Andrew Curry, Michelle Cuthrell, Lyn Garrity, Karen Larkins, Rebecca Maksel, Terence Monmaney, Beth Py-Lieberman and Paul Trachtman.

Cynthia Lindquist

53; PRESIDENT, CANKDESKA CIKANA COMMUNITY COLLEGE; SPIRIT LAKE RESERVATION, NORTH DAKOTA; DAKOTA

I'M DAKOTA AND SCANDINAVIAN, but being Native is so wonderful. There's a different sense of our relationship to people and the world. There's a sense of who we are, the role we play of being caretakers of mother earth, our families and our communities. The other wonderful thing about Native people is our sense of humor. I was visiting with a couple of uncles and one asked how I'm doing with my graduate program. I'm a PhD candidate. He tells me how proud they are of me, then says, when you're done we have a new Indian name for you—"Kunsi Doctor." Boy, did they laugh. Kunsi, pronounced *coo-n-chi*, means "old lady" or "grandma."

I'm hoping the museum symbolizes a new beginning for the relationship between the United States of America and Native people of this country. The way it's come about is phenomenal, relative to input, participation, advice and having Native people be part of the process. We're telling our story from our side of the story. I'm an eternal optimist. There's so much going on in Indian Country, all kinds of opportunity. What's most exciting is tribal people in the professions managing and providing the care and services our people so badly need.

MARK PETERSON / REDUX PICTURES

"We Rise, We Fall, We Rise"

A descendant of the capital city's original inhabitants comes home

BY GABRIELLE TAYAC

I WAS BORN AND RAISED in New York City, but I come from a people with a traditional territory encompassing Washington, D.C.—the swath of land in Maryland between the Potomac River and the Chesapeake Bay. We are called the Piscataway. Our very name translates as "where the waters blend" and refers to the location of our main village at the confluence of Piscataway Creek and the Potomac River. More specifically, Washington was the home of the Anacostan, who lived under the influence of the Piscataway central chief, the *tayac*, although it is probable that they maintained a high level of autonomy. Their name has been translated as "trading town." (The Anacostia River is named for them.) Rivers were not borders to them, but highways and connectors between disjointed lands and peoples.

As a distinct people, the Anacostan could not withstand the disease epidemics, land loss or trading wars that Europeans visited upon them. To the Iroquois Confederacy who protected them after the establishment of English hegemony, the Piscataway are known as the Conoy. The word is believed to be an English linguistic corruption of the Iroquoian word *Kanawa*, meaning "the rapids," and alludes to our lands at Great Falls in the Potomac where water rushes over boulders, forming a divide between mountains and coastal plains. Our point of view seems to be defined over time by waterways.

What I see here in Washington are lands that reach into deep time—and have been cultured for millennia. Like groundwaters that continually seek new flows, the indigenous peoples of this place—as well as those across the Western Hemisphere—have sought different means to endure. Some did so by resisting, adapting or retreating. But many others did not survive the onslaught of colonial and national expansions. In 1492, between 5 million and 13 million individuals existed within contemporary U.S. boundaries, according to Cherokee demographer Russell Thornton; by 1900, the number of indigenous peoples had declined to 250,000.

Although many peoples were lost, and across the continent many still face ethnic persecution, the people are on their way back. The year 2000 Census reported that 2.5 million American Indians lived in the United States—an extraordinary population recovery. An additional 1.6 million reported being American Indian and at least one other race, for a total of 4.1 million. In fact, the Census Bureau predicts that the American Indian population will double by the year 2050. South of the (artificially constructed) border with Mexico, there are as many as 44 million indigenous people today. As Native poet and activist John Trudell teaches, "We rise, we fall, we rise."

The story of the Chesapeake Bay area is germane to many places that are seemingly devoid of a Native presence. Yet nowhere in this hemisphere can be truly described as vacant of an indigenous aspect.

JOHN HARRINGTON

In 1979, Congress permitted the burial of Chief Turkey Tayac, the author's grandfather, in Maryland's Piscataway National Park.

GABRIELLE TAYAC, a sociologist, is a curator at the Smithsonian's National Museum of the American Indian.

"The earth is still here," my uncle proclaimed. "*We* are still here."

When Capt. John Smith led expeditions in 1608 throughout the Chesapeake—the name has been translated as "great shellfish bay" or "mother of waters"—seeking and seizing resources for his settlement at Jamestown, he recorded dozens of distinct peoples. Recently, I viewed computerized archaeological maps of the Potomac River and its drainages. I searched for Native American sites back to the earliest human occupation. Red dots indicating sites were so densely clustered on the waterways that they fused. Our peoples were truly numerous in and around Washington, D.C. at one time.

Back to her Indian roots: Tayac and son, Sebastian.

My grandfather, Chief Turkey Tayac, who was born in 1895, spent his life making a stand on the preservation and rebirth of Algonquian peoples, including his own Piscataway community. I was raised in an intensely liberating environment, where the unusual mix of my Jewish mother and my Piscataway father was not seen as odd: Greenwich Village in the 1970s. My father, Joseph, had left Washington, D.C. in 1944 at the age of 16 and joined the merchant marines. He ended up in Normandy on D-Day, and went on to navigate 100 sea voyages over the span of his 40-year career. His appearance confounds some people. When he visits his southern Maryland homeland, "locals" often assume he is from somewhere else. Arizona? South Dakota? Hawaii? China? "Can we show you how to eat that crab?" they ask. The look on their faces when they find out he is native to the region is priceless.

As an adolescent I became conscious that no one else could keep our heritage alive but ourselves. So I eventually returned to this Piscataway homeland and to Indian Country, which is also a state of mind and envelops every inch of this beloved land.

IN 1999, Native peoples and allies came together, in the shadow of the Capitol, to launch a process of truth and reconciliation. On a September morning, with prayers and solemnity, we lovingly opened the skin of the earth and broke ground for the National Museum of the American Indian.

We convened not far from the old lands of the Anacostans, to recognize the aboriginality of the land and also to bring the different Native peoples' experiences to light. Beginning with the drum group, we affirmed a promise to tell the truth: the truth about what happened to us, about who we are now and about who we want to be. The Vietnam Era Veterans Intertribal Association and North American Iroquois Veterans Association color guards danced in flags—those of the United States and of Native nations. Smithsonian and government officials were there to enact the promise. Hundreds of Native and non-Native people bore witness.

Then the spiritual leaders came, from four directions. They came from the south, Quechuas of Peru. They came from the west, Native Hawaiians. They came from the north, Inuit. To bless the east, my uncle Chief Billy Tayac and his son, Mark, answered the museum's invitation. Uncle Billy had handed me a plastic bottle of water labeled *sipi*, which I knew meant "river" in Algonquian languages. "Hold this for me," he requested. I thought that he had brought the bottle in case he got thirsty. But it turned out to be for a much more serious purpose.

"The earth is still here," my uncle proclaimed as the blessing began, "the water is still here. And *we* are still here." With soil from our burial grounds at Moyaone, in southern Maryland, he sprinkled the ground. Then he opened the bottle and poured its contents out. "This is water from the sacred Potomac," he explained. The ceremony ended with the old anthem of the American Indian Movement.

It felt, in that moment, that centuries of history had completed the turn of a great wheel: a wheel that in its 500-year revolution had wrought shattering cultural cataclysms; but one that had left enough of us standing to begin a healing process for both Native people and those who had come to our shores. We still have a long journey, but this is one that many recognize we must take together. We are all part of the story of this land now, and the choice to follow in our own ways the original instructions—the great laws given to our people by the Creator—is open wide before us.

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Chief Billy Tayac (above at right, with Ben Nighthorse Campbell, Daniel Inouye and W. Richard West Jr.) blesses NMAI's groundbreaking.

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Francis Scott Key,

who wrote the words that would become our national anthem, had opposed America's entry into the War of 1812 ~ *BY NORMAN GELB*

RELUCTANT PATRIOT

Key was detained aboard a British ship when he witnessed the 1814 attack on Baltimore Harbor (depicted c. 1816). During the bombardment, he recalled, "It seemed as though mother earth . . . was vomiting shot and shell."

ONE BY ONE, the buildings at the heart of the American government went up in flames. On the evening of August 24, 1814, British troops torched the Capitol, the Treasury, the President's House (not yet called the White House). All burned ferociously, as did the structures housing the War and the State departments. Battle-hardened redcoats had overwhelmed and scattered the largely untrained and poorly led American militiamen and regulars deployed to stop them from reaching the capital. President James Madison, along with his attorney general and secretary of state, had fled to safety across the Potomac River. Reporting news of the rout, the London *Courier* crowed: "War America would have, and war she has got."

As the flames rose across the capital on that sweltering August evening, the American government's decision two years earlier to declare war on Britain—in a conflict that would come to be known as the War of 1812—seemed foolhardy and self-destructive. England remained a mighty world power, while the fledgling United States was strapped for cash, plagued by domestic discord and militarily weak. Donald Hickey, author of *The War of 1812: A Forgotten Conflict*, says, "The Army was understaffed, untrained, poorly equipped and led by superannuated and incompetent officers. The Navy was just plain outmatched by the Royal Navy."

The British had been largely responsible for provoking hostilities. Locked in a fierce struggle for global domination with Emperor Napoleon's France, they brazenly interfered with neutral America's lucrative maritime commerce with Europe by seizing American ships and forcing kidnapped American seamen to meet the need for manpower on British naval vessels. "At this point," says historian Douglas Egerton, author of *Gabriel's Rebellion* and other works on antebellum America, "England still regarded American trade as part of their domain—even after the Revolution. Britain wanted to prevent American foodstuffs and other goods from reaching France; they needed to cut off that trade in order to help them win against Napoleon."

No matter how unequal the balance of power was between the United States and Great Britain, President Madison nevertheless condemned Britain's "progressive usurpations and accumulating wrongs," asserting that such outrages would not be tolerated by a nation that had earned its right to international respect through victory in the American Revolution three decades earlier.

From the moment hostilities commenced, in July 1812, British naval ships engaged U.S. vessels along the Eastern Seaboard, and British and American forces began skirmishing along the Northwest frontier and in Canada. In Congress, the hawks advocated an attempt to annex Canada, thereby reducing British influence in the contested Northwest. Thomas Jefferson, the former president, predicted that such a venture would be "a mere matter of marching."

The torching of the capital was said to be in retaliation for the burning of buildings in York (near present-day Toronto) by American troops earlier in the war. Now, dismay and anxiety reverberated across the country. Would New York be next? Philadelphia? The Royal Navy could put troops ashore anywhere along the Atlantic Coast.

Despite such forebodings, the burning of Washington did not herald disaster for the floundering American cause. Instead, it turned out to be the prelude to one of the most celebrated expressions of patriotic fervor in the young country's history: Francis Scott Key's composition of "The Star-Spangled Banner," written following the British attack on Baltimore Harbor three weeks after the assault on the capital.

After setting Washington ablaze and raiding adjoining Alexandria, Virginia, the British turned on Baltimore, 40 miles north. They confidently expected America's third-largest city (exceeded in population only by New York and Philadelphia) to fall as easily as the capital. A Royal Navy fleet proceeded from the Chesapeake Bay into the wide mouth of the Patapsco River and positioned itself to bombard Fort McHenry at the entrance to Baltimore Harbor. It was to be a coordinated land-sea operation. Once the fort had been silenced, British strategists predicted, the redcoats would take and plunder Baltimore, attempting to underscore the futility of any further challenge by the Americans.

NORMAN GELB is a freelance writer who is based in London.

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The British launched a withering bombardment of Fort McHenry on a rainy September 13. For much of the onslaught, shells and rockets fell on the fort at the rate of almost one a minute. American major George Armistead, commander of Fort McHenry, estimated that "from fifteen to eighteen hundred shells" were fired during the attack.

AT THE TIME, Francis Scott Key, a 35-year-old Washington lawyer and writer of occasional verse, found himself detained on a British ship within sight of the fort. The son of a distinguished judge, he had been born into a family of wealthy plantation owners based in Keymar, Maryland.

Key was in British custody due to an incident that had occurred two weeks earlier, when a 65-year-old physician, William Beanes, confronted some British soldiers who had tried to plunder his Upper Marlboro, Maryland, home. One of the soldiers complained to his officers, who had the doctor placed under arrest. He was escorted to one of their vessels in the Chesapeake Bay. Learning of the incarceration through Richard West, his wife's brother-in-law, Key agreed to act on Beanes' behalf and received permission from President Madison to try to negotiate his release.

On the face of it, Key seemed an unlikely candidate to write what would become the national anthem. He had referred to the conflict as "abominable" and a "lump of wickedness," siding with the many Americans—a majority, according to Republican South Carolina congressman William Lowndes—who believed that a diplomatic accommodation with Britain could have avoided hostilities altogether.

THE SENATE VOTE IN FAVOR of a declaration of war, taken on June 17, 1812, had split 19 to 13, reflecting fundamental differences between members of the largely pro-war Republicans and the largely antiwar Federalists. In the House of Representatives, the vote had been 79 to 49, with Republicans once again in favor. It was the closest vote on any declaration of war in American history.

Opposition had been particularly vehement in the Northeast. In New York that autumn of 1812, antiwar Federalist candidates made major electoral gains in Congressional contests. By the waning months of that year, the Massachusetts legislature passed a resolution urging citizens to resist the war effort. Antiwar sentiments ran deep in other parts of the country as well. Key's friend, maverick Republican congressman John Randolph of Virginia, said the war would be financed by the "blood and treasure of the people." Critics charged, too, that Congressional "war hawks"—Southern for the most part—were promoting the cause of settlers and speculators who eagerly eyed land in British-held Canada and Spanish Florida. The War of 1812, says historian Hickey, was, even given Vietnam, the most "vigorously opposed war with a foreign power in our history."

When news of the war reached New England, a few days after the June 17 vote in Congress, church bells in many Northeastern towns and villages tolled slowly in mourning, and shopkeepers closed their businesses in protest. By the time hostilities had dragged on for an inconclusive year and a half, delegates from New England convened in Hartford, Connecticut, to debate whether the Northeastern states should secede from the Union and establish a separate American nation. Massachusetts governor Caleb Strong made overtures to the British commander in Halifax, Nova Scotia, Sir John Coape Sherbrooke, to consider prospects for a separate peace. Historian Egerton believes that had the war gone on much longer, that "process of separation would surely have begun." At the time, he says, "it seemed as if the war could continue indefinitely. From the [New Englanders'] point of view, they had a president who had destroyed their maritime economy and was also getting Americans killed in an unnecessary war."

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Along with fellow residents of Washington, D.C., the 35-year-old Key (at about 18, opposite) was so upset by Britain's attack on the city (the Capitol, below, after being torched) that "for two or three days," he wrote, "I had neither time nor mind to do anything."

HOWEVER OPPOSED to America's entry into the war he had been, Key had been outraged by British incursions up the Chesapeake, the attack on the nation's capital and the capture of Beanes. On September 7, 1814, Key, accompanied by American prisoner-of-exchange officer John Skinner, boarded the *Tonnant*, flagship of the British fleet, where Beanes was being held. They carried with them letters from British officers who had been treated by Beanes after being wounded during a skirmish in Bladensburg, Maryland. Within hours, the Americans had persuaded a British commander, Maj. Gen. Robert Ross, to release the doctor. By then, however, the assault on Baltimore was imminent; the three Americans, guarded by British marines, were obliged to wait out the battle aboard the British sloop some eight miles upriver from Fort McHenry.

From the vessel, they anxiously watched the bombardment of the fort through the daylight hours of September 13. According to Key, "It seemed as though mother earth had opened and was vomiting shot and shell in a sheet of fire and brimstone." But as darkness descended, Key could see little more of the battle than the "red glare" of the enemy's newly designed gunpowder-propelled Congreve rockets tracing fiery arcs across the sky. "The heavens aglow were a seething sea of flame," he later wrote to his friend John Randolph. In the "angry sea," as Key described conditions on that stormy night, the flag-of-truce sloop was "tossed as though in a tempest." Key was alarmed by the sound of "bombs bursting in air"—British shells detonating short of their target.

It seemed unlikely, Key would later recall, that American resistance at the fort could withstand such a pounding. Not until the mists dissipated at dawn September 14 did he learn the outcome of the battle. "At last," he later wrote, "a bright streak of gold mingled with crimson shot athwart the eastern sky, followed by another, and still another, as the morning sun rose." Gradually he was able to discern not the British Union Jack that he had feared, but still, defiantly, an American flag, enormous in its dimensions, fluttering in the breeze from the flagpole of an undefeated Fort McHenry. The fort had not fallen: Baltimore remained safe. It was, he later wrote, a "most merciful deliverance."

Major Armistead, the fort commander, could take credit for the flag's spectacular size, 30 by 42 feet. Leaving no detail to chance in his preparations for the fort's defense, he envisioned a dramatic emblem, commissioning Baltimore flag maker Mary Young Pickersgill to stitch a banner so large that the enemy would "have no difficulty in seeing it from a distance." Mrs. Pickersgill had duly supplied the massive flag, sewn of wool bunting. Each of its 15 stars was about two feet across; its 15 stripes were about two feet wide.

History does not record with certainty whether the flag Key saw that fateful morning was the one flown during the bombardment itself. Some historians suggest that a 17- by 25-foot storm flag also sewn by Mrs. Pickersgill may have been run up the flagpole during the downpour, consistent with common practice. The famous Star-Spangled Banner—today one of the greatest treasures of the Smithsonian's National Museum of American History—may not have been raised until first light on September 14. "At dawn on the 14th," wrote militiaman Isaac Monroe of the Baltimore Fencibles, "our morning gun was fired, the flag hoisted, [and] Yankee Doodle played. . . . "

No thoroughly detailed account of this extraordinary moment exists, but we do know that Key was still aboard the *Tonnant* when he began composing a verse about the experience—and his relief at seeing the Stars and Stripes still waving. He used the only writing paper at hand: the back of a letter he pulled from his pocket. He had not yet learned that the British commander who'd been Beanes' liberator, Maj. Gen. Robert Ross, had been killed by a sniper en route to Baltimore. Almost immediately, the entire British fleet began to withdraw. Key and his companions, including Beanes, were released. On their passage back to shore, Key expanded the few lines he had scrawled. In his lodging at a Baltimore inn the following day, he polished his draft into four stanzas.

Key's brother-in-law Joseph Nicholson, a commander of a militia at Fort McHenry, had the poem printed for distribution to the public. Entitled "Defence of Fort M'Henry," the verse was accompanied by a suggestion that it be set to the music of an English drinking song. Before the week was out, the poem had been reprinted in the pages of the *Baltimore Patriot* newspaper, which pronounced it a "beautiful and animating effusion" that is destined "long to outlive the impulse which produced it." Rechristened "The Star-Spangled Banner" soon thereafter, Key's words were, within weeks, appearing in newspapers across the nation.

IN ENGLAND, news of the setback in Baltimore was met with dismay. The London *Times* called it a "lamentable event." The British public had grown increasingly critical of the conflict, their frustration compounded by crippling losses to the British economy; the suspension of lucrative trade with America, coupled with the staggering costs Britain had incurred during its war with Napoleon's France, had spread hardship across the land. "The tax burden on British citizens was crushing," says historian Hickey. "England had been at war with France for over two decades."

The United States was counting costs too. Confronted with a war-induced financial crisis and the realization that no substantial benefits were likely to accrue as a result of the conflict, President Madison and Congress accepted that the time had come to reach a peace settlement. Negotiations, conducted on neutral ground in Belgium at Ghent, were rapidly concluded; a treaty that provided neither country with major concessions was signed December 24, 1814. No signif-

Although Key (in a c. 1913 rendering) watched "in painful suspense" as the battle raged, he would recall that, even as he composed his poem, he could not forget that in Baltimore "the declaration of this abominable war [had been] received with public rejoicings."

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icant territorial exchanges took place. The United States tacitly accepted its failure to annex Canada. As for British harassment of American maritime commerce, most of that had lapsed when the British-French Napoleonic Wars ended with the defeat of the French emperor a few months earlier.

Although neither side achieved decisive or lasting military gain, the conflict did have beneficial consequences for the United States. The nation emerged stronger at least internationally. No matter how poorly prepared the United States had been, the government's readiness to take up arms against a mighty foe substantially enhanced American prestige abroad. Former president Thomas Jefferson said the war demonstrated that "our government . . . can stand the shock of war." Delaware senator James Bayard expressed a commonly held sentiment when he vowed: "It will be a long time before we are disturbed again by any of the powers of Europe." Indeed, within a decade, Madison's successor, James Monroe, formulated the Monroe Doctrine, which put "European powers" on notice that the United States would tolerate no further colonization in the "American continents."

The war had domestic consequences as well. Hickey believes that America actually lost the war "because we did not achieve our war aims—perhaps most significantly, we failed to achieve our territorial ambition to conquer or annex Canada." In Hickey's estimation, Madison showed himself to be "one of the weakest war presidents in America's history" for failing to work effectively with Congress, control his cabinet or provide coherent leadership.

But in the public mind his successes—the defense of Fort McHenry and the defeat, against all odds, of a Royal Navy squadron on Lake Champlain—outweighed his shortcomings. The greatest boost to American self-esteem was Gen. Andrew Jackson's victory in the Battle of New Orleans, which took place after the war had officially ended—the peace treaty having been signed in far-off Belgium more than a week earlier. "Americans were aware of the many failures in the war," says C. Edward Skeen, author of *Citizen Soldiers in the War of 1812*, but "to end the war on a high note certainly pumped up American pride," particularly since "most counted simple survival [in the war] as a victory."

Patriotic emotions had the effect of diminishing, at least temporarily, the political and regional rivalries that had divided Americans since the founding of the nation. Former secretary of the treasury Albert Gallatin, one of the United States negotiators at Ghent, believed his countrymen now felt more American than ever. "They feel and act," he said, "more like a nation."

That emergent sense of national identity had also acquired a potent emblem. Before the bombardment in Baltimore Harbor, the Stars and Stripes had possessed little transcendent significance: it functioned primarily as a banner to identify garrisons or forts. Now the flag—and Key's song inextricably linked to it—had become an emotionally charged symbol.

Key's "land of the free and the home of the brave" soon became a fixture of political campaigns and a staple of July fourth celebrations. Still, more than a century would pass from its composition until the moment in 1931 when President Herbert Hoover officially proclaimed it the national anthem of the United States. Even then, critics protested that the lyrics, lengthy and ornate, were too unfamiliar to much of the public. Others objected that Key's poem extolled military glory, equating patriotism "with killing and being killed . . . with intense hatreds and fury and violence," as Clyde Miller, dean of Columbia University's Teachers College, said in 1930. The *New York Herald Tribune* wrote that the song had "words that nobody can remember to a tune that nobody can sing." Detractors, including New York civic leader Albert S. Bard, argued that "America the Beautiful" would make for a more suitable, more singable anthem.

Despite the carping, Congress and Hoover conferred official status on "The Star-Spangled Banner" on March 3, 1931. Proponents had carried the day only after a campaign that featured two sopranos, backed by a Navy band, demonstrated the song's "singability" before the House Judiciary Committee.

As for the huge flag that inspired the writing of the anthem, it came into fort commander Armistead's hands not long after the Battle of Fort McHenry and remained in his family's possession until 1907, when his grandson, Eben Appleton, offered it to the Smithsonian Institution. Today, Smithsonian experts are painstakingly conserving the flag. Enclosed in a climate-controlled laboratory, it is the centerpiece of an exhibition at the National Museum of American History. The treatment, which has taken five years, is expected to be completed this year.

ALTHOUGH FRANCIS SCOTT KEY was a prolific writer, the only one of his poems to stand the test of time was "The Star-Spangled Banner." Although it would ultimately elevate him

Built in 1802, Key's Georgetown house (c. 1900) was dismantled in 1947 and put in storage—then vanished. "Misplacing a house key is one thing. Misplacing a Key house is quite another," quipped the *Washington Post* when the blunder surfaced in 1981.

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Undergoing conservation since 1999 and to be completed this year, the banner that inspired Key resides at the Smithsonian's National Museum of American History in Washington, D.C. It's "a[n] irreplaceable treasure," says Chief Conservator Suzanne Thomassen-Krauss.

into the pantheon of American heroes, Key was known during his lifetime primarily as a respected figure in legal and political circles. As a friend and adviser to President Andrew Jackson, he helped defuse pre-Civil War confrontations between the federal government and the state of Alabama.

A religious man, Key believed slavery sinful; he campaigned for suppression of the slave trade. "Where else, except in slavery," he asked, "was ever such a bed of torture prepared?" Yet the same man, who coined the expression "the land of the free," was himself an owner of slaves who defended in court slaveholders' rights to own human property.

Key believed that the best solution was for African-Americans to "return" to Africa—although by then most had been born in the United States. He was a founding member of the American Colonization Society, the organization dedicated to that objective; its efforts led to the creation of an independent Liberia on the west coast of Africa in 1847. Although the society's efforts were directed at the small percentage of free blacks, Key believed that the great majority of slaves would eventually join the exodus. That assumption, of course, proved to be a delusion. "Ultimately," says historian Egerton, "the proponents of colonization represent a failure of imagination. They simply cannot envision a multiracial society. The concept of moving people around as a solution was widespread and being applied to Indians as well."

When Key died at 63 on January 11, 1843, the *Baltimore American* declared that "so long as patriotism dwells amongst us, so long will this Song be the theme of our Nation." Across America, statues have been erected to his memory. Key's Georgetown house—where he lived with his wife, Polly, and 11 children—was removed to make way for a highway in 1947. The two-story brick dwelling, a national landmark by any measure, was dismantled and put in storage. By 1955, the building, down to the last brick, had disappeared from its storage site; it is presumed lost to history. By a joint resolution of Congress, a flag has flown continuously since May 30, 1949, over a monument marking his birthplace in Keymar, Maryland. It celebrates Key's important role in shaping, as historians Bruce and William B. Catton once wrote, Americans' belief "not merely in themselves but also in their future . . . lying just beyond the western horizon."

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Antarctica

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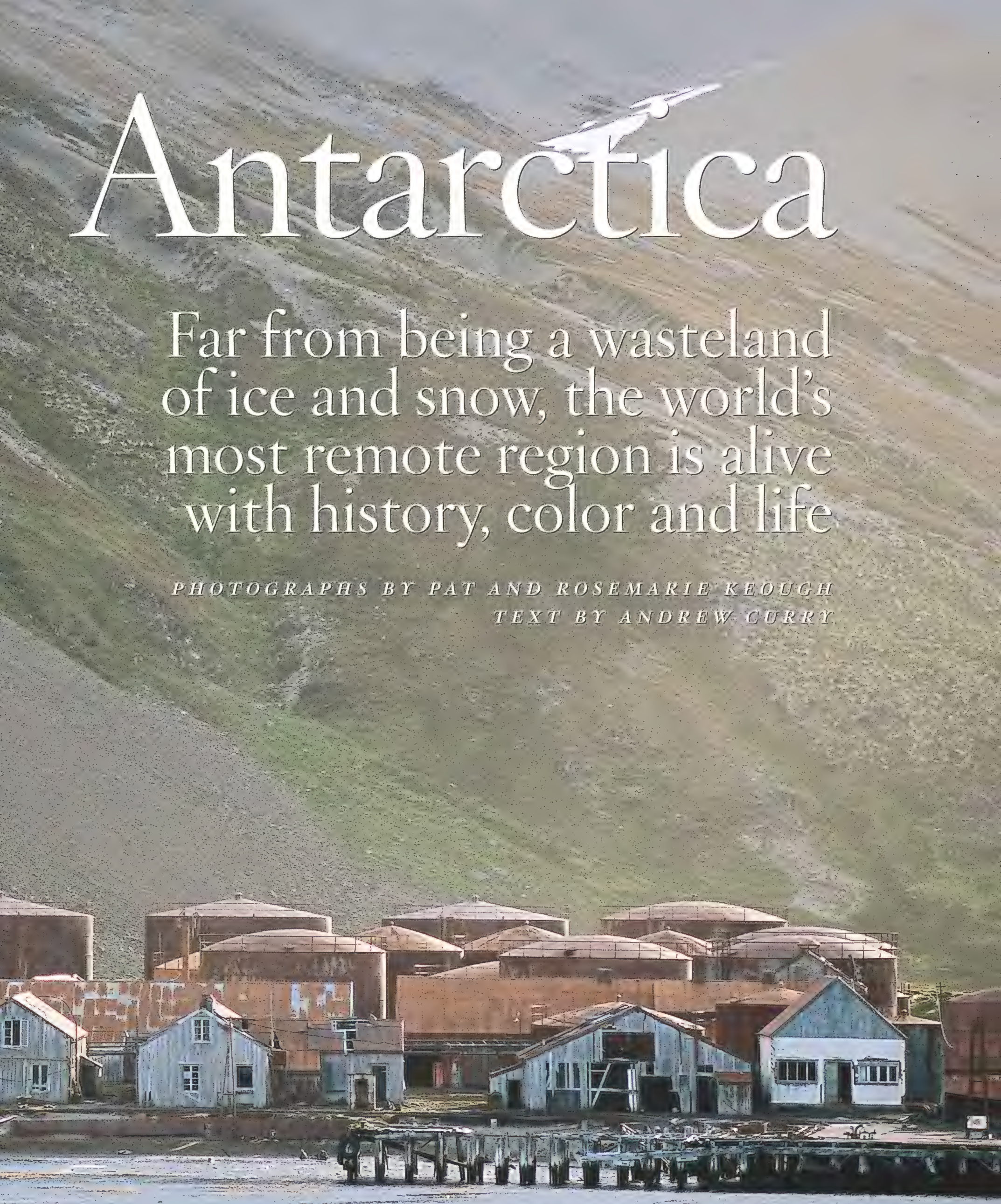
PHOTOGRAPHS BY PAT AND ROSEMARIE KEOUGH
TEXT BY ANDREW CURRY



ROSEMARIE KEOUGH almost died taking a penguin's picture. Camped on Antarctic sea ice with a small expedition of adventurers and photographers, she loaded film into three cameras and hiked half a mile in a snowstorm to capture a colony of emperor penguins. Then everything around her turned the same flat, featureless shade of white—the sky, the ground and the driving snow in front of her eyes. The line of red flags she needed to guide her back to the expedition's tents had vanished. "A total whiteout," she recalls. The 45-year-old photographer faced a stark choice: "Do you head out to where the pole line should be, knowing if you miss it you'll wander until you freeze to death? Or do you stay put and hope someone comes to get you?" She chose the comfort of another living being, crouching next to the nearest penguin for several hours until the expedition leader finally rescued her.

That was just one of the risks that she and her husband, Pat Keough, 59, who is also a photographer, willingly shouldered to capture the raw beauty of that mysterious land and its hardy creatures. From 1999 to 2001, they traveled to Antarctica for two austral summers—between November and March, when the South Pole gets constant sunlight and warms to a balmy -30 to -20 degrees Fahrenheit. Their pictures, collected in *Antarctica* (Nahanni Productions Inc), a hand-bound, limited-edition art book, are a counterintuitive vision: far from being a massive, sterile ice cube, the continent and its shores and seas are remarkably colorful. "Sunsets and sunrises seem to go on forever, icebergs turn every color in the rainbow," Pat Keough says. "Snow algae will turn a whole ice cap watermelon pink for hundreds of acres."

Photography within the Antarctic Circle is a challenge. "It's easy taking photos when the temperature isn't below -30 and the wind isn't above 15 knots," Rosemarie Keough says. "But in blizzard conditions, you can't change film or lenses. Snow an inch and a half thick gets encrusted on the camera, and apertures can freeze." The couple, who have been nature and travel photographers for 20 years and live in Salt Spring Island, Canada, were doused by frigid waves while shooting from the decks of storm-tossed icebreakers; they used their tripods to fend off angry skua birds on island beaches; and they sometimes spent long hours on sea ice crouched in total stillness to photograph brooding penguins.

Though professional photographers have recorded Antarctic scenes since the days of Robert Scott's failed 1910-13 expedition, the Keoughs' book, with 345 plates showing scenes

In the ten months they spent photographing the world's coldest continent, Rosemarie and Pat Keough's respect for the rugged landscape grew exponentially. "You can take calculated risks, but you can never forget where you are," says Rosemarie.

Russian icebreakers, such as the *Kapitan Khlebnikov* (left), have opened the Antarctic's once almost inaccessible seas and islands to tourism. From thrill-seekers climbing icebergs off the Antarctic Peninsula to bird-watchers on South Georgia island (opposite), tourists of all stripes are discovering the "Deep South."

Rosemarie Keough encountered “a total whiteout” after she took this picture of emperor penguins, one of two penguin species to live exclusively on and around the Antarctic continent.

from subantarctic islands to the heart of the continent, stands out for its breadth. The Keoughs and their book have collected 21 awards for photography and craftsmanship.

Antarctica has attracted adventurers since 1773, when British explorer James Cook became the first human to venture inside the polar circle. The place has also lured the entrepreneurial. Just a few years after Cook's voyage, whalers and sealers sailed south. Expeditions harvested the Antarctic fur seals that crowded onto island beaches to mate each summer. With no experience of humans or any other land-based predator, the seals were easy targets for hunters with clubs. Within half a century of Cook's voyage, seal hunters killed more than a million fur seals, at a rate of about 250,000 a year when hunting peaked around 1822.

With the seals gone, massive whaling operations began in 1904. Land stations, shipped south piece by piece at enormous expense, fueled and supplied factory ships capable of killing and processing tens of thousands of whales in a year. The massive mammals were slaughtered for their blubber, which was rendered into oil and used to make products as mundane as margarine. Within a few decades, whaling drove the humpback, blue and fin whales to the brink of extinction. Today, fewer than 3,000 humpbacks remain in Antarctica, down from more than 100,000 a century ago. "There are so few it's not profitable to exploit them," says Paul Arthur Berkman, author of the 2002 book *Science into Policy: Global Lessons from Antarctica*. "The whaling industry made itself commercially extinct."

Early attempts to explore Antarctica's forbidding interior required large base camps filled with supplies, like Ernest Shackleton's 1908 hut (opposite). Yet many of the structures left behind are monuments to exploitation, not exploration—such as the half-sunken sealing ships (below) and abandoned whaling stations (opposite, below) that dot the region's islands.

Not all of Antarctica's lessons have been negative. The Antarctic Treaty, signed by 12 nations in 1959, established the continent as a rare model of cooperation. Signatories, which included the Soviet Union, Britain and the United States, agreed to demilitarize the continent, share scientific information from studies there and set aside territorial claims. "The most valuable thing Antarctica can give us is a demonstration of how mankind can preserve an entire region for peaceful purposes," says Berkman. Indeed, the 1959 agreement would serve as a model for later treaties governing outer space and the high seas. Another landmark treaty, in 1964, established protected areas and species. As a result, Antarctica's wildlife is recovering.

Nowadays, the very remoteness of the continent, long elegized as the planet's last untouched place, raises a new threat: tourism. According to the International Association of Antarctic Tour Operators (IAATO), planes that land on the continent, as well as cruise ships that ply the polar waters, carried nearly 20,000 people to Antarctica in the 2003-2004 season—more than twice as many as a decade ago.

Among the attractions are the huts built by the earliest explorers, legends such as Robert Scott and Ernest Shackleton. World Monuments Fund president Bonnie Burnham says about 1,000 people tramp through the huts annually. Accidental time capsules whose contents are preserved almost perfectly by the cold, the century-old buildings are nonetheless being damaged by the harsh environment and increased traffic. Burnham and others are struggling to find a way to protect and preserve the structures, a job made complex by the fact that no single authority governs Antarctica. And though organizations like IAATO are working to responsibly manage tourism's impact, membership in the organization is voluntary.

The old rendering plants are also still standing, monuments to an ambition no less fierce than the explorers'. "You can't help but be moved by the scale of industry and what it meant," Pat Keough says. Ironically, the abandoned slaughterhouses are occupied again—by fur seals. "If they have a choice, they'll move indoors," Keough says. "They're wedged into buildings side by side, leaping out at you from under beds or sinks." Not that the seals' return to Antarctica was entirely planned; the population began to recover only after hunters turned their attention to whaling. The depletion of whale populations increased the availability of krill, shrimplike organisms eaten by seals, which explains why there are probably more fur seals in Antarctica today than before humans first arrived.

ANDREW CURRY is general editor of SMITHSONIAN magazine.

Tabular icebergs, like the one opposite, can be miles long. But the region's seas and shores are also home to wildlife, including the well-camouflaged skua bird nestled in moss on the Antarctic Peninsula.

MARK RICHARDS

They fled terror in Laos after secretly aiding American forces in the Vietnam War. Now 200,000 Hmong prosper—and struggle—in the United States

BY MARC KAUFMAN

AMERICAN ODYSSEY

LATE ONE NIGHT this past April in a suburb of St. Paul, Minnesota, a window in Cha Vang's split-level house shattered and a container filled with fire accelerant landed inside. Vang, his wife and three daughters, ages 12, 10 and 3, escaped the blaze, but the $400,000 house was destroyed. "If you want to terrorize a person or send a message, you slash a tire," Vang, a 39-year-old prominent Hmong-American businessman and political figure, told the *St. Paul Pioneer Press*. "To burn down a house with people sleeping in it is attempted murder."

Police believe that the incident may have been connected to two previous near-fatal attacks—a shooting and another firebombing—directed at members of the local Hmong community. The St. Paul-Minneapolis metropolitan area is home to 60,000 of the nation's roughly 200,000 Hmong (pronounced "mong"), an ethnic group from Laos who began seeking sanctuary in the United States following the Vietnam War. Vang is the son of Gen. Vang Pao, the legendary commander of the Hmong guerrillas whom the CIA recruited in the early 1960s to aid U.S. pilots shot down in Laos and bordering Vietnam and also to harry communist forces there. Today, Gen. Vang Pao, who resides near Los Angeles, is the acknowledged patriarch of his exiled countrymen. Many Hmong-Americans are convinced that agents of the communist Laotian government were behind the attack on Vang's family.

The violence in St. Paul briefly cast a light, albeit a harsh one, on what otherwise may be the most extraordinary immigrant story in this immigrant nation in a long time. No group of refugees has been less prepared for modern American life than the Hmong, and yet none has succeeded more quickly in making itself at home here. In Laos, the Hmong inhabited isolated highland hamlets and lived as subsistence farmers, some also growing opium poppies as a cash crop. Though they are an ancient people tracing their ancestry to China, where they endured more than 4,000 years as an oppressed minority before fleeing to Laos 200 years ago, the Hmong, at least as far as scholars know, did not have a written language until the 1950s. After the Vietnam War and their largely unheralded efforts on behalf of U.S. forces,

Hmong-Americans are melding old ways and new. "Friends told me this was a crazy idea, we're in America, not Laos," says Tom Lor (left, who married Xiong Mee Vue Lo, wearing white shirt, and adopted her children ages 3 to 13, after a clan elder arranged an introduction). "But so far, it seems to be working."

In the early 1960s, CIA agents began secretly training Hmong soldiers (with American and Thai military instructors, c. 1960). At the war's peak in 1968, some 30,000 Hmong fought communist troops near the Vietnam-Laos border.

the Hmong were hunted by the communists; many escaped to refugee camps in Thailand before being granted sanctuary in the United States.

"When they arrived here, the Hmong were the least westernized, most unprepared for life in the United States of all the Southeast Asian refugee groups," said Toyo Biddle, formerly of the federal Office of Refugee Resettlement, who during the 1980s was the primary official overseeing that transition. "What they've achieved since then is really remarkable."

Thousands of Hmong-Americans have earned college degrees. In their homeland there existed only a handful of Hmong professionals, primarily fighter pilots and military officers; today, the American Hmong community boasts scores of physicians, lawyers and university professors. Newly literate, Hmong writers are producing a growing body of literature; a compilation of their stories and poems about life in America, *Bamboo Among the Oaks*, was published in 2002. Hmong-Americans own shopping malls and recording studios; ginseng farms in Wisconsin; chicken farms across the South; and more than 100 restaurants in the state of Michigan alone. In Minnesota, more than half of the state's 10,000 or so Hmong families own their homes. Not bad for an ethnic group that former Wyoming Republican senator Alan Simpson characterized in 1987 as virtually incapable of integrating into American culture, or as he put it, "the most indigestible group in society."

To be sure, accounts of Hmong life in the United States have tended to focus on their troubles. Shortly after arriving in California, the Upper Midwest and the Southeast, they became known for a high rate of dependence on welfare, for violent gangs and drive-by shootings, and for a despair that too often led to suicide or murder. The Hmong community's problems remain quite real, as shown by the burned wreckage of Vang's house in St. Paul and the poverty endured by many, but the difficulties have a way of obscuring the more important story of this displaced people's embrace of American ideals. "Hmong culture is very democratic," says Kou Yang, a 49-year-old Hmong born in Laos who is now an associate professor of Asian-American studies at California State University at Stanislaus. Except perhaps in ancient times, he says, the Hmong "never had kings or queens or nobles. The customs, ceremonies, even the language generally put people on the same level. It's a very good fit with America and democracy."

The best evidence for that notion could be seen one afternoon this past winter in an unlikely place: the gaudy expanse of the artificial grass in Minneapolis' Metrodome.

IT WAS December 27, the eve of the Hmong New Year, and the home of baseball's Twins and football's Vikings was given over to a Hmong celebration attended by some 12,000 people. Hmong women and men, girls and boys, stood in long lines on the field, tossing balls back and forth in a reprise of an ancient courtship ritual. Others played *toulou*, an elaborate team sport requiring skill at spinning large wooden tops. On the sidelines, wizened elders sold medicinal herbs and finely stitched wall hangings, many depicting scenes from Hmong folklore and history.

The highlight of the program was a speech by Minnesota state senator Mee Moua—the first Southeast Asian refugee to be elected to a state legislature in the United States. Moua, 35, was garbed in traditional Hmong dress: an ornately embroidered skirt, black blouse and tightly wound black turban. Around her waist she wore a silver chain strung with dozens of antique French coins. Their musical jangle announced her arrival in the end zone as she approached a microphone placed on a wooden stage, its backdrop depicting a Hmong village in Laos.

"We Hmong are a proud people," Moua began. "We have great hopes and awesome dreams, but historically, we have never had the opportunity to truly live out those hopes and dreams." She went on, "We have been chasing those hopes and dreams through many valleys and mountains, through war, death and starvation, crossing countless borders. . . . And here we are today . . . living in the greatest country on earth, the United States of America. In just 28 years . . . we have

TUEPHENG XIONG COLLECTION

MARC KAUFMAN is a staff writer for the Washington Post.

"We are living in the greatest country on earth," says Minnesota state senator Mee Moua (at the statehouse, and, inset, at age 8 with her family at a Thai refugee camp in 1977).

made more progress than in the 200 years that we have endured life in southern China and Southeast Asia." The crowd erupted in applause.

Moua's own story embodies that ascendancy. Born in a mountain village in Laos in 1969, she and her family spent three years in a Thai refugee camp before they resettled in Providence, Rhode Island, and from there moved to Appleton, Wisconsin, where her father eventually found work in a television-components factory. After the plant closed, he worked at odd jobs, including a mundane occupation shared by many unskilled, illiterate Hmong newly arrived in the Midwest. The job was described in a 1980 song written by a 15-year-old Hmong refugee, Xab Pheej Kim, then living across the border in Canada:

I'm picking up nightcrawlers
In the middle of the night.
I'm picking up nightcrawlers
The world's so cool, so quiet.
For the others, it's the time to sleep sound.
So why is it my time to be up earning my living?
For the others, it's time to sleep on the bed.
So why is it my time to pick up nightcrawlers?

Kim's verses (written in Hmong and now at the Hmong Nationality Archives in St. Paul) document the once-commonplace job of plucking up earthworms, which were sold as bait to fishermen. Moua's family harvested worms in Wisconsin when she was a girl. "It was hard and pretty yucky," she recalls, "but we were always looking for ways to make a little cash."

Moua's persistence and capacity for hard work would carry her a long way in a culture whose leaders traditionally have been neither female nor young. She graduated from Brown University in 1992 and went on to earn a law degree from the University of Minnesota in 1997. By her early 30s, Moua had become a prominent Democratic Party activist and a fundraiser for the late U.S. senator Paul Wellstone. In January 2002, Moua won office in a by-election held after a state senator was elected mayor of St. Paul; she was reelected that fall by a district that is more than 80 percent non-Hmong. Today she travels the nation talking about how the United States finally gave the Hmong a fair shot at opportunity.

Some would say it was the least America could do.

LAYNE KENNEDY; MEE MOUA COLLECTION

AS THE U.S. MILITARY involvement in Vietnam deepened, CIA agents recruited Hmong villagers into a "secret army" in Laos, a force of some 30,000 at its peak that was called on to gather intelligence, rescue downed American pilots and fight communist troops in the fiercely contested borderland between Vietnam and Laos. As many as 20,000 Hmong soldiers died during the Vietnam War. Hmong civilians, who numbered about 300,000 before the war, perished by the tens of thousands. Their sacrifice was virtually unknown to most Americans until 1997, when efforts by Hmong veterans and their advocates resulted in the installation at Arlington National Cemetery of a commemorative plaque. "In memory of the Hmong and Lao combat veterans and their American advisors who served freedom's cause in Southeast Asia," reads the memorial, one of a handful honoring foreign soldiers in the cemetery. "Their patriotic valor and loyalty in the defense of liberty and democracy will never be forgotten."

Moua's father, Chao Tao Moua, was 16 when he was recruited in 1965 by the CIA to work as a medic. For the next ten years, he served with U.S. forces in Laos, setting up remote clinics to treat Hmong villagers and injured American airmen. Then, in 1975, several months after U.S. forces abruptly withdrew from Vietnam in April, victorious Laotian communists (the Pathet Lao) officially seized control of their country. Mee Moua's father and other members of the CIA-backed secret Laotian army knew they were marked men.

The strategic significance of Laos became increasingly important as U.S. military involvement in Southeast Asia deepened. Says Roger Warner, author of *Backfire: The CIA's Secret War in Laos*: "From 1963 to 1973 . . . Laos was a secret annex to the main Vietnam theater."

"One night, some villagers told my father that the Pathet Lao were coming and were looking for whomever worked with the Americans," she says. "He knew he was on their list." Chao Tao Moua, his wife, Vang Thao Moua, 5-year-old daughter Mee and infant Mang, later named Mike, fled in the middle of the night from their village in the Xieng Khouang Province. They were among the fortunate who managed to cross the Mekong River into Thailand. Thousands of Hmong died at the hands of the Pathet Lao in the aftermath of the war. "In 1975, the current communist government came to power," says Jane Hamilton-Merritt, author of *Tragic Mountains*, a history of the Vietnam-era conflict in Laos. "It announced publicly that it intended to 'wipe out' the Hmong who had allied themselves with the Royal Lao Government and the United States and therefore opposed the communist Pathet Lao soldiers and the North Vietnamese military forces operating in Laos. . . . Wiping out the targeted Hmong began in earnest in early 1976 and continues in 2004."

The Hmong in Laos may be considered the last victims of the Vietnam War. Today, as many as 17,000 of them who fled into the jungle 30 years ago are said to remain in hiding, fearing for their lives and conducting sporadic guerrilla incursions against the still-communist Laotian government. Reports suggest that hundreds of Hmong have recently begun to emerge from the jungle, lured by the prospect of amnesty. Douglas Hartwick, U.S. ambassador to Laos, says that his goal has been to "reconcile Hmong insurgents and the Lao government." However, many of those who have left their mountain redoubts have reportedly met with retaliation instead, perhaps facing imprisonment or execution. The Laotian government denies this. Hartwick says only: "We have been unable to substantiate these reports or repudiate them."

Additionally, perhaps 30,000 Hmong remain in limbo across the border in Thailand, consigned over the decades to refugee camps. Some of them, unwilling to abandon relatives remaining in Laos, refused to depart for the United States in the 1970s. In December 2003, the United States agreed to accept up to 15,000 Hmong from a rural Thailand camp for resettlement. They began arriving in July.

Although there are Hmong-Americans who do return regularly to Laos, relations between the Hmong-American community and Laos are strained. As it happens, Vang's house in St. Paul was torched five months after his father had called for normal trade relations with the Laotian government and its president, Khamtai Siphandon, and negotiating an end to the 30-year-long jungle warfare. The U.S. State Department currently advocates normal trade relations with Laos. In September 2003, the two countries took an important step when they signed a trade agreement. It is awaiting Congressional approval.

THE HMONG diaspora of the 1970s evolved against the dark backdrop of trauma and terror that unfolded during the 1960s in their homeland. When that first wave of Hmong refugees reached the United States, their poverty was often compounded by the Hmong tradition of large families. The U.S. resettlement policy also created hardships. It required that refugees be dispersed throughout the nation, to prevent any

MIKE REAGAN

ANN HEISENFELT / AP / WIDE WORLD PHOTOS

Hmong have prospered in Minneapolis (the site of a traditional New Year fete). Says Toyo Biddle, formerly of the Office of Refugee Resettlement: "The Hmong were the least westernized of Southeast Asian refugee groups. What they've achieved is remarkable."

one municipality from being overburdened. But the effect was to break apart families and fragment the 18 or so traditional clans that form the social backbone of the Hmong community. Not only do clans provide each individual with a family name—Moua, Vang, Thao, Yang, for example—they also provide support and guidance, especially in times of need.

Large Hmong populations settled in California and the Minneapolis-St. Paul area, where social services were well funded and jobs were said to exist. Today, Minnesota's Twin Cities are called the "Hmong capital of the United States." In one of the latest waves of migration, more and more Hmong have settled in a part of the nation that they say reminds them of home: North Carolina.

THIS PAST JANUARY in Hickory, North Carolina, Mee Moua and her husband, Yee Chang, a journalist turned real estate agent, sat at a makeshift banquet table in the living room of an officer of the United Hmong Association of North Carolina. They were eating an American Hmong fusion breakfast of doughnuts and spicy soup, and were joined by more than a dozen Hmong residents of the Hickory-Morganton area in the foothills of the Piedmont plateau. This area, many Hmong say, reminds them of the highlands of Laos.

On this morning, they were seeking advice from Moua on a number of problems. For instance, there were only two or three fluent bilingual Hmong speakers in the area capable of serving as interpreters in courtrooms and the like. The interpreters had been donating their services, but the work was interfering with their other jobs. "What you have to do is make a translation business and then sign contracts with the hospitals and courts," Moua suggested. Perhaps a member of the Minnesota Supreme Court, she said, could contact a judge on the North Carolina Supreme Court to discuss adopting such a program already in place in Minnesota. The North Carolina Hmong readily agreed to follow up on her suggestions.

Most of the estimated 15,000 Hmong in North Carolina work in furniture factories and mills, but many have turned to chickens. One of the first poultry farmers in the Morganton area was Toua Lo, a former school principal in Laos. Lo owns 53 acres, four chicken houses and thousands of breeding hens. "Hmong people call me all the time for advice on how to start a chicken farm, and maybe 20 come down to my farm every year," he says.

Later that day, in front of about 500 Hmong and local and state officials at a Morganton high-school cafeteria, Moua recalled the time local toughs showed up at her house

TO THE RESCUE

In a mountaintop guardpost near the village of Ban Va in central Laos, Hmong soldiers watched the American pilot eject from his burning plane. It was December 1964, early in the Vietnam War, and the pilot was on a bombing run. The Hmong, part of a secret army backed by the CIA, hoped to reach him before North Vietnamese troops in the area did.

The leader of this cadre of ragtag Hmong soldiers, Nou Yee Yang, recalls that he and his men walked for hours before reaching a field where they spotted a parachute. They found the pilot hiding in some bushes. "He was sweating and very scared because he didn't know who we were," Yang says.

"*Phoumi*," the Hmong soldiers said to the pilot, referring to a Laotian leader supported by the United States. The Hmong, who spoke no English, hoped the pilot would recognize the name and understand they were on the American side.

Yang (above) never learned the name of the pilot he saved.

Yang says the airman was still uncertain whether the Hmong soldiers were friend or foe as they led him to another hilltop village. Their American-donated radios weren't working, so they put the pilot's helmet on a long stick and waved it to signal U.S. search planes. A U.S. helicopter arrived the next morning. The pilot "was smiling so much and waving his arms goodbye when he left," Yang recalls, adding that the American presented his rescuers with his pistol as a token of gratitude.

Bill Lair, a CIA official based in Laos at the time, who directed the agency's operations there, says Hmong soldiers risked their own lives to lead many U.S. pilots to safety. The total number of American airmen rescued by the Hmong was, according to agency spokesman Mark Mansfield, never tallied by the CIA.

Yang, now 65, fled Laos after the communist takeover in 1975 and has lived in Milwaukee since 1979. He still speaks no English and has found little work in the United States other than odd jobs. Nonetheless, he says, he feels connected to this country, in part because of that pilot he rescued four decades ago. Yang never did learn the man's name. "I wish that someday I could meet him again," he says through an interpreter.

Another Hmong veteran in Milwaukee, Xay Dang Xiong, 61, says he commanded Hmong forces protecting a secret American radar installation on a Laotian mountaintop. Like Yang, Xiong fled Laos in 1975. Today, he works with Lao Family Community, a Hmong social service agency in Milwaukee. "When we fought alongside the Americans in Laos, it was called the secret war," he says. "Hmong people did so many dangerous things to help, but people here still don't know that. It's still like a secret."

in Appleton, Wisconsin, when she was about 12 years old. They pelted the house with eggs. She wanted to confront the group, some of whom she suspected had been among those who had earlier defaced the house with racial epithets, but her parents intervened. "Go out there now, and maybe you will get killed, and we won't have a daughter," she remembers her father saying. Her mother added, "Stay inside, work hard and make something with your life: maybe someday that boy will work for you and give you respect." Moua paused. "When I go to places around the country now," she concluded, "I'm very happy to tell you that I get respect."

GER YANG, 43, represents the other face of the Hmong exile in America. He lives in a three-room apartment with 11 family members in Stockton, California. Neither Yang nor his wife, Mee Cheng, 38, speaks English; neither has worked since their arrival in 1990; they subsist on welfare. Their eight children, ranging in age from 3 to 21, attend school or work only sporadically, and their 17-year-old daughter is pregnant. The family holds to a traditional belief that the newborn and its parents must leave the family home for 30 days out of respect for ancestral spirits, but the daughter and her boyfriend have no place to go. (In Laos, expectant couples simply construct a small hut next to the house.) If "the baby and new parents don't leave the house," Yang says, "the ancestors will be offended and the entire family will die."

Like Yang, many Hmong-Americans in Stockton are jobless and receive government assistance. Some youths drop out of school in their early teens, and violence is often a problem. This past August, youths gunned down Tong Lo, a 48-year-old Hmong grocery store owner, in front of his market. (He left behind a 36-year-old wife, Xiong Mee Vue Lo, and seven children.) Police suspect that Hmong gang members committed the murder, although they have yet to determine a motive or apprehend the gunmen. "I've seen hostilities start with just a look," says Tracy Barries of Stockton's Operation Peacekeepers, an outreach program, "and it will escalate from there."

Pheng Lo, director of Stockton's Lao Family Community, a nonprofit social service agency, says parents are vying with gangs for the hearts and minds of many Hmong youths. "You either win them over or you lose," he says. "Many parents don't know English and can't work, and the children start to take the power in the family. Soon, the parents can't control their own children." In Laos, Lo said, parents had strict control over their children, and they must assert it here too.

The Hmong have always been adaptable, taking in the cultures around them, but they hold tight to many customs. After the Hmong grocery store owner was gunned down, his widow, Mee Vue Lo, considered leaving Stockton. But her husband's clan, the Los, following the Hmong tradition, sought another clan member to be her husband

MARC KAUTMAN

In July, the first of 15,000 new Hmong refugees departed a Thai camp for the United States (including Modesto, California, where families were reunited). Preparing to leave the camp, Ju Vu, 11, recently told National Public Radio: "America is the land of opportunity."

and provide for the children. Vue Lo, who had been in the United States for 25 years, spoke good English and considered herself American, resisted the idea. Still, the clan leader, Pheng Lo, approached Tom Lor, 40, a recently divorced benefits officer at the county welfare office. Lor also wanted nothing to do with old Hmong marrying customs.

And that's where things might have stood if Lor hadn't learned that Vue Lo's 3-year-old daughter, Elizabeth, was in the hospital with a pulmonary infection and few would visit her; she'd witnessed the shooting, and people were afraid that members of the gang that allegedly killed her father might show up. When Lor visited Elizabeth, she smiled and curled up in his lap. "I couldn't get the girl out of my mind," he recalls. "I was suffering myself from my divorce, and was away from my son." When Lor returned to the hospital a couple of days later, the girl's mother was there.

The two agreed that the clan's marriage idea was silly, but they talked, and one thing led to another. Lor moved into Vue Lo's house, along with the seven children, and they were married in a Hmong ceremony. The marriage took place just a few weeks after Lo's death, a perhaps shockingly short time by American standards. But in traditional Hmong culture, the new husband-to-be is usually chosen and present at the funeral of a man leaving behind a wife and children.

MICHAEL MCCOLLUM / STOCKTON RECORD

ON A RAINY NIGHT this past March, Mee Moua greeted a delegation of government and business leaders from Taiwan at Cedarhurst, a 26-room mansion on ten acres southeast of St. Paul. Built in 1863, the Classical Revival landmark originally belonged to Cordenio Severance, a lawyer and friend of Frank B. Kellogg, a U.S. senator and the secretary of state under Calvin Coolidge. It is now owned by two of Moua's uncles, Xoua Thao, 41, a physician, and True Thao, 39, the first licensed Hmong social worker in Minnesota. The brothers, who were destitute, came to the United States in 1976 from a family that knew only farming and fighting in Laos. In 2001, they bought the $1 million mansion, which is listed on the National Register of Historic Places.

After a banquet of steak, shrimp and baby bok choy, the guests gathered near a wall that holds a gallery of prosperous-looking men associated with the mansion going back to its robber baron days. In the position of greatest honor, though, is a large color photograph of an elderly Hmong man and woman, Moua's maternal grandparents, who had been orphaned in Laos. Her grandfather died in the States in 2000; her grandmother still lives at Cedarhurst. Xoua Thao surveys the wall with pride. "My father didn't live to see this place," he says softly, "but I'm sure his spirit is here and is very pleased tonight."

The California condor learns from people, other condors and the school of hard knocks ~ BY A.J.S. RAYL

PHOTOGRAPHS BY DAVE MONLEY

BECOMING A FULL-FLEDGED CONDOR

THE STENCH OF ROTTING CALF CARCASSES hangs thick in the air, and bugs are buzzing about, attracted by the carrion laid out to lure seven California condors in from the wild. From the Big Sur coast, it has taken several fieldworkers from the Ventana Wilderness Society two and a half hours by four-wheel drive and on foot to reach the condor release pen nestled in the Santa Lucia Mountains. They have trekked here to examine the condors and outfit several of them with GPS transceivers.

This is one of the few times these prehistoric-looking vultures, the largest soaring birds in North America, will interact face to face with their human benefactors, and the humans are intent on making it as unpleasant as possible; they want to discourage the birds from fraternizing with any people they may encounter during any future travels. Six biologists enter the pen shouting and flailing their arms, shooing the condors into holding cells. Three people back one condor into a corner. Curt Mykut, Ventana's condor program coordinator, deftly grabs the bird's beak while the other two crew members take hold of its body, compressing its wings and coupling its feet. Any slip could lead to bloodshed. A condor's beak is sharper than the sharpest carving knife; the bird's talons could easily gash through the toughest denim; and with a nine-foot wingspan, one abrupt flap of its wings could knock a biologist silly.

When the U.S. Fish & Wildlife Service (USFWS) captured the last condor in the wild in 1987 and put it into a breeding program, bringing to 27 the number in captivity, no one knew if the species could recov-

It takes three well-trained humans to wrestle a full-grown California condor into submission. After a quick checkup, condor #231 (the birds' ID tags omit the first number) will be outfitted with a new radio transmitter.

"If they don't find [carrion] on a schedule that can keep them alive, they're not going to make it," says one ornithologist.

er. To everyone's relief, the survivors mated. As of this summer, 149 condors were living in captivity, and 99 released birds were flying free in central California, Arizona and Baja, Mexico—the largest wild population in more than half a century. Twelve more birds will be released this month. And five pairs are known to be mating in the wild.

At first, every released bird was equipped with two battery-powered radio transmitters, but condors often disappear for days or weeks into rugged landscapes where humans don't go and radio signals drop out. Last year, Margaret and William Randolph Hearst III, whose family built San Simeon, in condor country, donated $100,000 to equip 12 birds with solar-powered GPS units. Each one, about the size of a pager, is affixed to a pin that pierces a wing and attaches to it much as a pierced earring attaches to an ear. The unit determines location from satellite signals, updates geographic coordinates within 14 feet every hour for up to 16 hours a day and sends the information to a satellite station, which relays it to the wilderness group's Salinas headquarters by e-mail every three days.

The state-of-the-art technology has enabled biologists to venture deeper into the condors' world than ever before. Early returns have already shown that condors fly a lot more in a given day than anyone expected and that fledglings and young condors explore and expand their range as they grow and gain confidence. But the main thing biologists have learned—from observations and experiments, and from GPS as well as other tracking systems—is just how much the condors have to learn to survive in the wild.

Naturalists have long known that condors are inquisitive, playful, highly social and more or less monogamous. Researchers working on the condor recovery program have

Most of the condors' meals (a calf below) are laid out for them on Big Sur hillsides. If the birds eat animals killed by hunters, lead bullets can poison them. New GPS transceivers (above) help the recovery team track when and where the condors are feeding.

VENTANA WILDERNESS SOCIETY

found that the birds are also more astute and idiosyncratic than previously believed. "They seem like the primates I used to work with, because they are so intelligent and so social, each with a distinct personality that evolves in a highly developed hierarchy," says Chandra David, lead condor keeper at the Los Angeles Zoo.

"We now know that we're looking at one of the more complicated species in the animal world," says the San Diego Zoo's Mike Wallace, who heads the Condor Recovery Team, a panel that oversees restoration efforts. It's also "one of the most difficult to study because of the dynamics of the way they do their business."

It's not clear whether condor chicks are fooled by the hand puppets that raise them (top). Regardless, the mock-parents are able to toughen up the chicks and instill some respect in them. Once grown, certain behaviors seem to come naturally, such as male-female preening (above) that serves as foreplay to mating.

SCAVENGERS, IT TURNS OUT, have to be especially resourceful. Unlike a peregrine falcon or an eagle that can snatch prey out of the air or water, a condor has to wait for something to die. "It's a knowledge game, an information game for them," says Wallace. "It's a case of an ephemeral resource out there, and if they don't find it on a schedule that can keep them alive, then they're not going to make it as a condor." A condor will often have to fight for a carcass. "There may be a cougar or coyote waiting in the brush, and usually there are turkey vultures, eagles or ravens already feeding there, so condors will come in—changing the color of their faces to blood-red and blowing their necks up, and just as they are about to land, they flash their wings showing the white underneath—whoa!" says Mike Clark of the Condor Recovery Team, feigning the shock of another bird. "They get in there by intimidating, power-tripping and bluffing."

The first condors to be released, in 1992, taught scientists a lot about the bird's intelligence and behavior. By 1994, five of the 13 animals had died, 4 by electrocuting themselves. They had collided with high-voltage power lines or had perched on power poles and unfurled their wings into the lines while sunning themselves. The surviving 8 birds were brought in to the Los Angeles Zoo breeding centers to teach them about electricity. Wallace and Clark erected a mock power pole that gave a slight shock to any bird alighting on it. To the researchers' surprise, some birds learned not to perch on the power pole simply by observing another bird getting shocked, or by observing that an adult never went near the pole.

Another behavior problem of newly released birds was their curiosity about people. "One of our first birds walked into the office building at the Post Ranch Inn in Big Sur," recalls Kelly Sorenson, executive director of the Ventana Wilderness Society. Another, he said, went to the Esalen Institute, the Big Sur home of 1960s encounter groups, and "perched in a cypress tree above the hot tubs filled with naked

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TOP: SAN DIEGO ZOO

people." Still another condor begged handouts from campers. They were acting more like pets than wild animals.

As it happens, those particular birds had been reared by hand puppets made to look like adult condors. The human puppeteers at the breeding centers had always hidden themselves carefully from the birds, so the chicks wouldn't associate their two-legged benefactors with food. Eventually researchers figured out what breeders were doing wrong.

At three months of age, the chicks had been placed in groups of four to nine, on the theory that they would bond and stick together after release. But with no adults present, they didn't learn how to behave like condors. "It was the blind leading the blind," Wallace says.

After being released in Big Sur (here by a biologist, center, and friends of a donor), some condors fly 160 miles south to visit pals at the Ventura County release site.

Real condor parents spend a lot of time harassing their chicks—pecking at them, dragging them around in the nest, pushing them away when they become too inquisitive—all for their own good. "As the adults were picking and picking at their chick, they were teaching it to be cautious, to defend itself," Clark says. And, indeed, birds reared by condor parents—even if only for the first three months of their lives—are less likely to approach humans, the biologists say.

Now every condor chick at the Los Angeles Zoo is raised individually, whether by a condor parent or a hand puppet, until it fledges at about 6 months of age. Human puppeteers are now trained to nag and hassle the chicks. And once the chicks are brought to a release pen, they're mentored by adult condors for six months before being set free. "Now, they're cautious, timid, wary, and that's what we want," says Clark.

Young condors must also learn to be confident. In Baja last year, fledgling condors #218 and #259 were attacked by golden eagles–their frequent foes. After the encounters, the condors hunkered down and took only short flights, apparently too intimidated to soar above the ridgeline, where they might attract the raptors' attention. Wildlife workers recaptured the condors and later released them in a nearby area, where they gradually regained confidence.

EVER SINCE the first condors were released, crews have tracked them from afar. In 1999, Joe Burnett, then with the Ventana Wilderness Society and now at the Oregon Zoo in Portland, followed two condors' radio signals to a hidden cove off Highway 1, below Big Sur's steep cliffs. "As I looked through my binoculars from above, I saw them feeding on a sea lion carcass," says Burnett. It was the first evidence that the Big Sur birds had found their own wild food and the first time anyone had seen condors anywhere feeding on marine life in more than a century.

New GPS data suggest that knowledge about where to find food—and other information—may be shared between condors. Last year, Sorenson says, signals from condor #199, a younger bird, showed that it visited the Big Sur Cove four or five times a week. It may have learned from other condors that it was a good place to find food. That would square with the new view of condor upbringing, which holds that the birds spend their subadult years as apprentices. Says Wallace: "The knowledge of how to find a carcass and how to stay alive is passed on from generation to generation within the group, because that group knows the ins and outs of a specific habitat."

Tracking technologies have also shed light on condors' social nature. About two years after being released in 1997,

P. 97 MIKE CLARK

When groups of four to nine chicks were raised without adult supervision, says Wallace, "it was the blind leading the blind."

members of the Big Sur flock discovered condor comrades that had been released 160 miles south in Ventura County. Ever since, the Big Sur birds have intermittently flown along the coastal mountain range to Southern California, a trip they often make in as little as five hours. Apparently they go to all that trouble just to hang out with their southern pals.

AFTER THE VENTANA CREW finishes installing the new GPS devices, the birds depart one by one. Taking a running jump from the edge of the pen, #242, a 3-year-old male, thrusts his legs back, pointing his talons in gymnast form as his wings catch an updraft and lift him above the Big Sur treetops.

Within a few weeks, the birds are asserting their independence. Male #242 embarked on his maiden voyage toward the condor reserve in Southern California. He surprised the field crew at Ventana by taking a coastal route; other birds had followed the inland side of the mountains. Around the same time, GPS-tagged condor #161 raised a few eyebrows by leaving her mate in charge of their nestling and flying 100 miles to forage for food.

"We have saved the species in the sense of captive numbers, but the ideal is to have the condor in the wild doing its own thing," Wallace says. The more the researchers learn about the birds, the better the chances that someday truly wild condors—without numbered tags or GPS units—will once again soar the skies of the West.

Condors have haunted these hills for eons; they were entombed in the La Brea tar pits with sabertoothed cats and mastodons.

A star of the 1960s art scene returns with a triumphant exhibition of futuristic works

BY PAUL TRACHTMAN

LEE BONTECOU'S BRAVE NEW WORLD

LEE BONTECOU, who vanished from the art world in the 1970s after a star-burst of fame, has spent the past few decades working in a remote Pennsylvania barn, producing a series of huge, ethereal, wire-and-ceramic sculptures that hang in midair, like exploding galaxies, or unraveling viruses, or alien insects with sci-fi eye pods and antennae. Unveiled in a major coast-to-coast exhibition last October, these sculptures are nothing like the massive steel-and-canvas wall reliefs with ominous "black holes" that brought her renown in the 1960s, and the three museum curators who worked on the exhibition all say they felt the same sense of shock when they first saw her new work. "It was an extraordinary moment," says Elizabeth Smith of Chicago's Museum of Contemporary Art (MCA). Ann Philbin, director of UCLA's Hammer Museum, says she almost fainted. And Lilian Tone of New York's Museum of Modern Art (MOMA) says, "I was floored. 'Floored' isn't even the word." There is as yet no name for what Bontecou is showing us, only an invitation to look at sculpture in a new way.

Bontecou's self-imposed exile, and her return, have lent an air of mystery and excitement to the exhibition "Lee Bontecou: A Retrospective," and if she is again being treated as something of a celebrity, it's the last thing she says she wants. "I never wanted to be a star," she insists. "It's the art that is the star." The show, which includes more than 100 of her sculptures and drawings, is on view at MOMA, Queens, through September 27, after runs at the Hammer and the MCA, which co-organized the exhibition.

The connection between drawing and sculpture holds the key to Bontecou's art. Her huge wall reliefs, constructed of welded steel covered with cut-up sections of canvas and sometimes encrusted with scrap materials, airplane parts, saw blades or other found objects, call to mind the early Cubist collages of Picasso and Braque, which incorporated pieces of torn paper and newsprint. "You can solve an awful lot of problems with the drawing," says Bontecou, 73, "rather than do the sculpture and find out it's not going to work." Yet just as her sculpture is probing the future, her drawings display old-master draftsmanship. Looking at one as it was placed on the wall of the MCA, chief curator Smith, who first conceived of this exhibition, exclaimed, "It could almost be a page out of Leonardo's sketchbooks!" Of Bontecou's reliefs, Smith adds: "She's drawing with metal, she's painting with canvas. One of the things she pioneered was to get sculpture off the ground, to make something that was neither a painting nor a sculpture, but something in between."

After getting sculpture off the floor, which seemed liberating in the 1960s, Bontecou next wanted to get it away from the wall, as if drawing

"I got tired of sculpture as a big thing in the middle of a room," says Bontecou (left, at her show at Chicago's Museum of Contemporary Art). "I wanted it to go into space." The steel-and-wire work (above) is from 2001.

with wire in thin air. "I just got tired of sculpture as a big thing in the middle of a room," she says. "I wanted it to go into space." To that end, she looked to a world of lunar modules and Mars rovers, of microbes seen through electron microscopes, of double helixes and fractal dimensions revealed by computers, and of the cosmos laid bare by the Hubble telescope. What her eye took in, her hands began to shape.

Bontecou was using new imagery to make a statement as old as art itself, about what she calls "the wonders and horrors" of nature, technology and the human heart. "Look at the stealth bomber," she says. "It's a beautiful thing up in the air, a piece of sculpture! But what it does is horror!" She sees its duality as a metaphor for all of us, for human nature.

A few days before her exhibition opened in Chicago, Bontecou showed up to look at the installation and repair a couple of hanging sculptures damaged during the move from Los Angeles. A petite woman with gray hair and a pixie grin, she sports the same pageboy haircut and blue jeans she wore on the pages of *LIFE* magazine 40 years ago. At the museum, she fit right in with the installation crew, picking up some pliers and tape from a tool cart and inserting loose wires into their ceramic connectors. Some of her constructions are so complex that even Bontecou occasionally goes blank for a moment, pausing to ask herself, What was I doing over here?

She is a meticulous craftswoman, and her work has always left the traces of its making exposed—all the stitches, scorch marks, twists and windings of wire. When one of the crew showed her a tray of glues and pastes used in conserving artwork, Bontecou studied the labels and asked for something else. "See if you can find that paste used by plumbers," she said. "*Plumbers*," she repeated, "not electricians." Having lived in the country all those years, Bontecou knows how to fix things. The crew was impressed. "We're really enjoying working on this show," said Brad Martin, who supervised the installation. "Here's an artist who actually makes her own work. That's really old school! A lot of contemporary artists don't know how to do that."

Bontecou worked on the larger of her new sculptures for more than ten years, building each of them outward from a ceramic core suspended from the rafters of her barn. "As I add things on," she says, "I see how it will float, or fly. It grows, and I fight and fight, and sometimes it just won't come and I want to throw bricks! Then, if it sits around long enough, I just see something and off it goes. And then it starts taking over and I'm not even in there."

Her days on the farm, with her artist husband, Bill Giles, and daughter, Valerie, now 37, were often consumed by raising vegetables, tinkering with tractors, and all the other chores of a self-sufficient rural life. She turned into a sculptor after dark. "Making the new pieces," she says, "I'd work at it at night and get the light right, and it was like magic. I'd just put one of these little ceramic pieces here or there, and you couldn't see the wire that attached it. All you'd see were these little white things floating. And then I'd move the light, and the 'drawing' of the wire would hit the wall, and I'd think, That's better than the sculpture! That's a great drawing!"

Illusions and shadows, light and dark, have been part of Bontecou's art from the beginning. She traces this back to her childhood during World War II, when her mother worked in a plant building submarine transmitters and her father worked for Grumman Aircraft. Although her family lived outside New York City, they spent summers with her grandmother on an island off the coast of Nova Scotia. "It was a little island," she recalls, "and it was just complete freedom. The cows ran free, the chickens ran free, the kids ran free. And the tides came in and out and the water was all around you—but there were the German U-boats out there."

Bontecou also recalls newspaper photographs of the concentration camps at war's end—"looking at those poor dead skeleton people. . . . I'll never forget it," she says. "So it's not

"I never wanted to be a star," insists Bontecou (at work in 1963 at her Wooster Street studio in New York City). "It's the art that is the star."

UGO MULAS / UGO MULAS ESTATE, PP. 98 BART HARRIS; P. 99 WILL BROWN / COURTESY OF KNOEDLER & CO., NEW YORK

Writer and artist PAUL TRACHTMAN *lives in New Mexico. His work can be seen at www.paultrachtman.net.*

When the sculptor heard on the radio that astronomers were looking for objects out in space they called "black holes," it was as if her art (above, 1960 welded-steel-and-canvas relief) had collided with the cosmos. "I thought, Oh yes! Thank you!" she recalls.

ROBERT HASHIMOTO / ART INSTITUTE OF CHICAGO

hard to figure out all the war imagery in my early work." At Bradford College in Massachusetts, she studied art, but couldn't stand the class in sculpture. It was after college, while enrolled at the Art Students League in New York City, that she wandered into the basement sculpture studio one day and found her métier. "It was a dungeon," she recalls, "but I just knew it was for me." A spell at the Skowhegen School in Maine, where she learned welding, was followed by a Fulbright grant that sent her off to Rome for two years.

There, she was taken with the elongated sculptures of Alberto Giacometti and the ancient Etruscan art that had inspired him. She set to work on a series of bird and animal forms that reflects those influences; primitive yet fractured figures with bodies of welded steel and concrete, and skins of shattered terra cotta. But she was about to make a jump, as Giacometti had, into a vision all her own. Decades apart, the two artists seem to have found their future in a moment of hallucination. Young Giacometti described a vision on the streets of Padua in 1920. As he was walking behind several girls, they suddenly seemed to lose all proportion, appearing immense, and striking fear into him as he stared at them like a madman. Giacometti spent the rest of his life grappling

with perceptions and proportions of the human figure in his sculptures. Bontecou's vision came 37 years later as she was walking across the Piazza Navona in Rome. "It was in the winter, cold, no one there," she recalls, "and as I walked across it I felt like one of Giacometti's little men, and I just felt like . . . springing! I thought, Well, here's old Giacometti jumping across his piazzas! It just was part of me. It was like all the cobbles became really light and I was on a trampoline. The piazza was beautiful, and it was like I was in a big box, but I had that freedom, jumping."

Her first artistic leap came in her Rome studio with a welding torch. The torch used a mixture of oxygen and acetylene, and as Bontecou turned off the oxygen, the acetylene flame spewed a jet of soot across the floor. Aiming it at a sheet of paper, she turned the accident into art. "I just started drawing with it, and I had to keep the torch moving. I burned up a lot of paper!" she recalls. "Then I got thicker paper that resisted the flame more, and it was an incredible black, it was just beautiful. I made a lot of drawings with it."

The drawings looked like abstract landscapes, or the terrain of some science-fiction planet. Inspired in part by the Russian spacecraft *Sputnik*'s pioneering orbiting of the earth at the time, she called them *Worldscapes*. "It was like outer-space drawing," she says, "where you could either go into the black or be repelled by it. With a pencil or even paint you couldn't get that depth. I knew it was the beginning of something, but I didn't know what." Returning to New York in 1958 with her soot drawings and torch, she would find out.

She rented a cheap loft over a steam laundry on the city's Lower East Side, and she discovered she could leap into space in her sculptures too. She started making small boxes by welding a steel frame and covering all the sides in canvas—with a circular hole cut in one side to allow viewers to see into the black interior. "To me it was like the whole universe," she says. "It was exciting. I kept dreaming and dreaming about these things, and then they got bigger." Bontecou used scraps of canvas from discarded laundry bags and conveyor belts, which she cut apart and wired to increasingly complicated steel constructions, always with that black hole in their midst. Instead of boxes on legs, the sculptures became large reliefs on her studio wall, and she lined the interiors with black velvet to keep the holes black. She was at work on these sculptures when she heard on the radio that astronomers were searching for mysterious objects out in space they called "black holes." It was as if her art had collided with the cosmos. "I thought, Oh yes! Thank you!" she recalls.

Bontecou's sculptures stunned the New York City art world. Among the gallery owners who made their way to her studio was Leo Castelli, who had helped make stars of Jasper Johns and Robert Rauschenberg. Castelli put her in a group show in May 1960 and gave her a solo show the following November. The influential magazine *Art in America* dubbed her "the find of the year," and her work was included in major exhibitions here and abroad, including three at the Whitney Museum of American Art and two at New York's Museum of Modern Art. Architect Philip Johnson commissioned a piece for the lobby of his New York State Theater at Lincoln Center, and later said her sculpture—which included part of a World War II bomber as well as her trademark black hole—fit into his design as perfectly as "a baroque statue in the niche of a baroque hall."

But Bontecou says she was after freedom, not fame, and that fame began to feel like a trap. She recalls Castelli asking her to alter one of her sculptures for a buyer so it would take up less space; she refused. She thought, "Maybe he's just selling *things*!" And then she made a series of strange plastic fish (one critic called them "Frankenfish") and flowers (with gas masks and dangling life-support tubes) that were nothing like her previous work. Most critics were dismayed. "I got to a point with the reliefs where I sort of felt, hmm, that's good for now," she says. "But the gallery wanted me to keep going. More! Do *more*! And when those *flowers* appeared, that was a no-no! But I needed time to experiment, to change."

Bontecou had thrilled to the Abstract Expressionists of the 1950s—Jackson Pollock, Willem de Kooning, Franz Kline. "They'd get drunk and be spouting *art*, not gallery talk!" she says. "They were just so alive, and the paintings were. I loved it. I got energy from it." But in the '60s, she grew disillusioned with what she saw as a rampant commer-

Bontecou's interest in biology and organic forms is evident in much of her work. When she first exhibited her vacuum-formed plastic fish (above, a sculpture from 1970), a critic dubbed them "Frankenfish." The white-charcoal drawing (top) is from 1971.

ROBERT LORENZSON; CHRISTOPHER BURKE / PRIVATE COLLECTION, NEW YORK

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Making her new pieces (above, a detail of a steel, porcelain, canvas and wire sculpture from 1998), Bontecou says, "I'd work at it at night and get the light right, and it was like magic. . . . Then I'd move the light, and the 'drawing' of the wire would hit the wall."

cialism. "That sort of passion dried up, with all these younger artists talking about sales, all clawing to the top. That was sad for me." In 1965 she married fellow artist William Giles, who had also shown at Castelli's gallery. The birth of their daughter, Valerie, and the purchase of an old farm in Pennsylvania, where they could spend weekends and summers, further fueled Bontecou's wish to escape. "I didn't want to show anymore for a while. Bill and I had a little baby," she says. "It was like the best piece of sculpture I ever made. And it was the most natural and easiest." The family moved to Long Island, and Bontecou got a job teaching art at Brooklyn College "as a way of having no galleries." In the following years they moved several times, while Bontecou commuted two days a week to Brooklyn to teach. When she retired from teaching in 1991, they moved to their farm for good.

Valerie, a field biologist, who worked most recently as a scientific assistant at the American Museum of Natural History in New York City, recalls "these two people who were equal, they were best friends. They were always working, always. Whether it was things that drove them crazy, like fixing a tractor or painting a house, they'd sweat and swear over it—they never had anybody do anything. They always were independent, independent, independent."

As Bontecou worked on new sculptures, year after year, firing constellations of tiny porcelain balls in her kiln or welding her webs of wire, the art world had no idea where she was or what she was up to. From time to time a curator somewhere might think about putting together a Bontecou exhibition; most gave up because they couldn't find her. Then, in 1993, Elizabeth Smith, at the time a young curator at the Mu-

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"I always find search and experimenting the most exciting," says Bontecou (at the Chicago exhibition with two of the welded-steel-and-canvas reliefs that brought her renown in the 1960s). Above all, she says, she wants "to express a feeling of freedom."

seum of Contemporary Art in Los Angeles, decided to mount a small exhibition of her work with or without Bontecou's participation. "It's kind of unheard of," she says, "to do a show of a living artist's work without the artist being involved in it, but I just kept going. I tried to find where Lee was, but no one seemed to know." After months of futile detective work, she tracked down Bontecou's address.

"So I started writing to her and didn't get any response. I kept sending her updates anyway. Finally, when I wrote the text for the show's brochure, I sent it to her and asked her for any corrections or comments. And one day the phone rang and it was Lee Bontecou on the other end! I just about fell off my chair. We had a very nice conversation about the text, and from then on we started to communicate."

Bontecou came to Los Angeles for the show. "I was so nervous about meeting this reclusive person," Smith recalls, "and she was so shy she didn't want to come when the museum was open, with people around." Though she said she liked the show, Bontecou quickly retreated to her farm. In 1999, Smith moved to Chicago's Museum of Contemporary Art and sent out change-of-address letters. Bontecou wrote back, inviting her to visit the farm. But before Smith could get there, Bontecou was stricken with aplastic anemia, a life-threatening illness. "At first I was thinking, This old age is really getting me!" she remembers. "When I was pitching hay, every pitch I'd have to rest." Soon she was hospitalized, getting blood transfusions every three days, and getting worse. "The doctor gave up," she says, "and I didn't know if I'd make it or not. And that was when I thought, Well, I've got to get rid of this stuff, so Bill and Val won't be stuck with it!"

Bontecou's husband researched alternative therapies for her, and she recovered. In 2000, Smith finally stepped into the barn. "I saw the things she had made over the years," she says, "and I knew nobody in my position had seen all this work. I realized this was an amazing opportunity, and I just blurted out, 'Lee, would you consider having a show of all your work?' And she said yes."

In Chicago, walking through the exhibition with Bontecou, I look up at one of her new sculptures and suddenly understand her love of the Abstract Expressionists of her youth. If flattened out, this hanging constellation of porcelain and wire, with fragments of wire mesh, strips of cloth and streaks of color, would look like a Pollock action painting. It's as if she's lifted a Pollock painting off the canvas and up into the air, taking the freedom the Abstract Expressionists taught her into new dimensions. "Yes," Bontecou agrees, then adds that she hasn't gone as far as she'd like to with her latest sculptures: "I even wanted to shatter them more. I mean, they are kind of shattered, but somehow they're still whole. I haven't done *that* yet."

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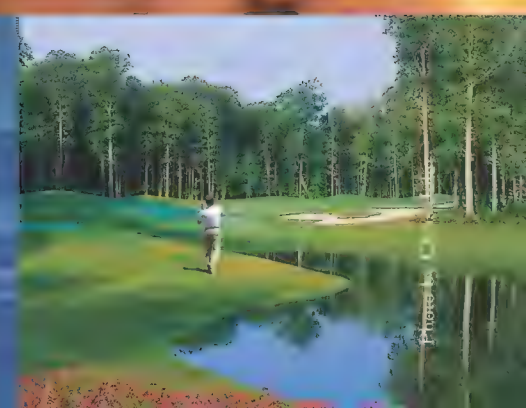

Chestnutty

Wielding cutting-edge science and lots of patience, James Hill Craddock hopes to restore the ravaged American chestnut tree to its former glory ~ BY SUSAN FREINKEL

"I like chestnuts," says Craddock (at an experimental orchard near Chattanooga, Tennessee), who calls the blight that wiped out some four billion trees during the last century "the greatest ecological disaster in North America since the ice age."

"Unfortunately, you've got to kill some of them," says Craddock, pointing to saplings about to be injected with blight fungus. "That's sad because they're my babies. But if we don't do it, we won't be able to make progress in the breeding program."

JAMES HILL CRADDOCK calls himself a chestnut breeder, but a truer description would be a chestnut evangelist. For the better part of his 44 years he has been preaching the virtue of the genus *Castanea*. "I think the world would be a better place with more chestnuts," he says. His particular concern is the American chestnut. Once known as the redwood of the East, the tree ruled forests from Georgia to Maine until it was devastated by chestnut blight in the first half of the 20th century. By 1950, the fungus had killed some four billion American chestnut trees—"the greatest ecological disaster in North America since the ice age," Craddock says.

Today, the towering American chestnut of old is very rare, and hardly an acre of its natural habitat is blight free. Yet Craddock, a biologist at the University of Tennessee at Chattanooga (UTC), persists in his optimistic mission of restoring the vanquished tree. At several experimental orchards outside Chattanooga, he is breeding scores of chestnuts in an effort to develop blight-resistant hybrids that could be planted in forests, helping reestablish what was once, he says, "the dominant tree in the canopy."

Craddock (his friends call him Hill) is well equipped for such a monumental undertaking. "I couldn't care less about chestnuts personally, but when I'm with Hill, he even gets me excited," says Charles Nelson, head of the UTC biology department. To win people over to his cause, Craddock has been known to serve up bowls of chestnut soup, heavy on the cream. "There's no one who doesn't like it," he claims. He planted his first chestnut tree when he was 15, and now, some 30 years later, is

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the recipient of an academic stipend devoted exclusively to the study and restoration of the American chestnut.

The tree once played a critical role in American life in the Eastern United States. The nuts that rained down each fall fed nearly all the inhabitants of the forest. The trees grew fast and tall and straight, reaching more than 100 feet high and as much as 9 feet in diameter in 75 to 100 years. The wood resisted rot and warping, making it a favorite for fencing, utility poles and furniture. People built homes from chestnut logs, buried their dead in chestnut coffins and fattened their hogs with the tree's nuts. In Appalachia, the blight dealt a blow as crippling as the Great Depression.

The disease was first observed in 1904 at the Bronx Zoo, and scientists soon determined that it was caused by a fungus. The "miserable stowaway," as one observer called it, had arrived in America on chestnut trees from Asia. In its native habitat, the fungus, *Cryphonectria parasitica*, is relatively benign. Asian chestnuts can shrug off an infection, but the American chestnuts quickly succumbed. The fungus, whose spores infiltrate tiny cracks in a tree's bark, can kill a healthy tree in a year.

And the blight moved with heartbreaking speed—carried by the wind, animals, insects and humans. Despite efforts to stop the pandemic, "it spread about 30 miles a year in concentric circles from New York City," says Craddock. By 1930 many of the chestnut trees in the forest canopy were dead or reduced to mere shrubs as far south as North Carolina and west to Ohio.

The chestnut trees we see today outside forests are mainly European or Asian species, smaller and less majestic than their American kin. A few mature American chestnuts survive, but they are ravaged by cankers. There are also rare cases of isolated trees that have escaped the blight. And though the forests are full of chestnut saplings sprouting off the root systems of blight-infested trees, their growth is stunted. For decades it was thought that the stately American chestnut was lost to the past. But thanks to Craddock and others, it now may have a future.

Craddock's love affair with chestnuts began when he was growing up, near Woods Hole, Massachusetts. His father was a marine biologist and his mother, an emergency room nurse. He'd gardened since he was old enough to hold a trowel, and in his teens he became interested in sustainable agriculture. At 17 he read *Tree Crops: A Permanent Agriculture*, by J. Russell Smith, which described how Corsicans had raised chestnuts for food, lumber and forage for centuries without damaging the soil—in fact, they improved it. "It made a huge impression," Craddock recalls.

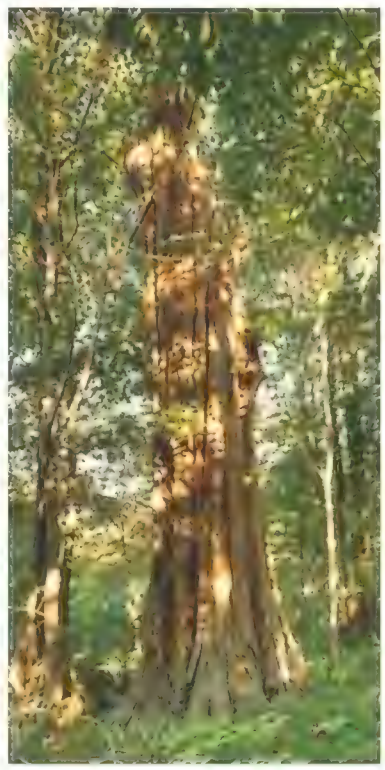
While attending the University of Indiana, where he studied art and biology, Craddock rode his bike all over

The storied, spreading American chestnut tree (above, in an undated engraving) dominated the forest canopy in the Eastern United States until it was decimated (below, a dead chestnut in the midst of a lush woodland, 1988) by a killer fungus.

Bloomington, collecting nuts from Chinese chestnut trees. He planted them in soil-filled milk cartons, then sold the seedlings at a local farmers' market. "I told everyone I met that they should plant chestnuts," he recalls. At Oregon State University, he earned a master's degree in horticulture.

Then, in 1987, he moved to Italy to be with Paola Zannini, an Italian botanist he'd met at Oregon State and would later marry. Craddock was thrilled to find himself in a place where chestnuts had been cultivated for thousands of years. He spotted his first chestnut tree during a drive through the Alpine countryside. A man was raking nuts under the tree's spreading branches. "I said to Paola, 'Go and ask the man what kind of chestnuts they are.' Paola looked me in the eye and said, 'First you learn Italian. Then *you* go ask the guy what kind of nuts they are.'" Craddock did as he was told and also earned a doctorate in pomology, the science of growing fruit, at the University of Turin. It was in Italy, he says, that he "realized someone would pay me to think about chestnuts."

The someone turned out to be Chattanooga philanthropist William Raoul, who met Craddock in 1995. Unbeknown to Craddock, Raoul had persuaded donors to help fund a UTC position dedicated, in part, to chestnut tree restoration. Craddock was asked to fill the job. At last, he had a pulpit for his chestnut gospel.



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ON A MORNING in early spring, Craddock steers a clanking maroon van south of Chattanooga toward Bendabout Farm, where he oversees three of his five experimental chestnut orchards. The chestnuts will soon be coming into bloom, giving him just a few weeks to do the matchmaking for a new generation. He seems slightly frazzled.

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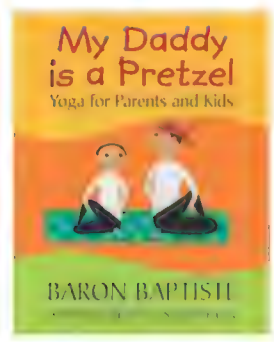

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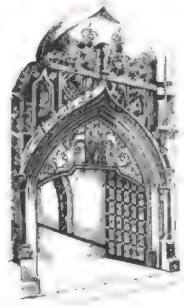

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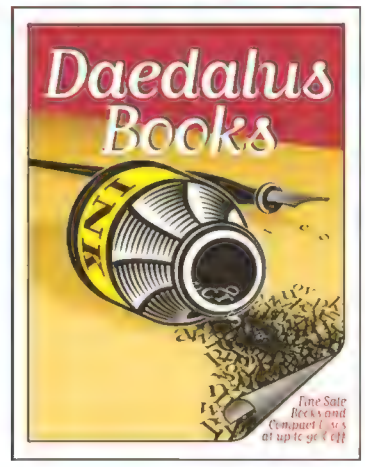

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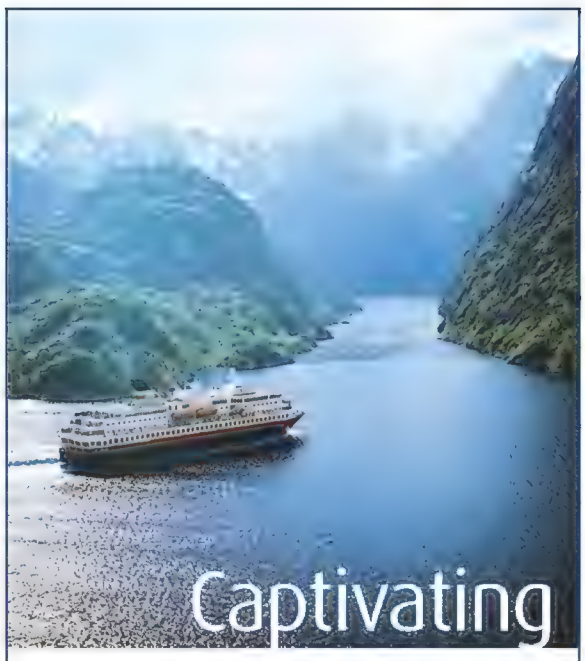

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"Chestnut breeding time," he admits, "is a time of great anxiety."

Craddock follows breeding procedures championed by corn geneticist Charles Burnham, who helped found the American Chestnut Foundation (TACF) in the early 1980s. Since that time, TACF has led the effort to breed blight-resistant hybrids at its experimental farm in Virginia. In the technique, known as backcrossing, successive generations of Asian-American hybrids are crossed with pure American trees. The idea, Craddock says, is first to transfer blight-resistance characteristics to the American species, then phase out all other Asian traits (the Asian trees, shorter and less hardy, are not well adapted to U.S. forests) by subsequent crosses with American chestnuts.

Scientists predict it will take at least five generations of crosses to produce a highly resistant tree. Even so, the odds are daunting: for every hundred trees produced, only a handful acquire resistance. "If you were a professional gambler," says Craddock, "you'd never bet on the American chestnut tree." Still, TACF's efforts appear to be paying off: the program expects to have its first blight-resistant nuts ready to test in forests by 2007 or 2008.

But TACF's trees can't restock the entire Eastern United States, nor should they. A resistant hybrid that flourishes in Virginia could falter in Maine or Georgia, which is why TACF wants to develop local chapters that can draw on an area's native stock to breed blight-resistant trees. Craddock and his helpers, for instance, scoured Tennessee for remaining American chestnuts with which to create his first locally adapted hybrid generation.

He gestures proudly to a row of 15-foot-high saplings, their saw-tooth-edged leaves fluttering in the breeze. They are the first Tennessee hybrids that he bred, planted seven years ago. Each will soon be challenged with a shot of blight fungus, and those few

Freelance writer SUSAN FREINKEL is based in San Francisco. She is currently working on a book about chestnut trees.

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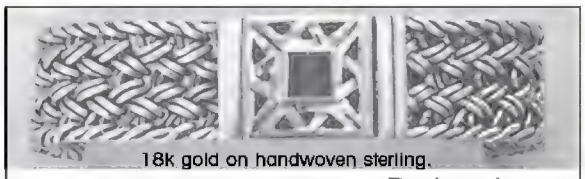

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"Chestnut breeding time," says Craddock, "is a time of anxiety."

that show some resistance will be selected for breeding the next generation. "Unfortunately, you've got to kill some of them," he explains, wagging the slim branch of one tree. "That's sad because they're my babies. But if we don't do it, we won't be able to make progress in the breeding program."

Craddock, like other chestnut researchers, is exploring another anti-blight strategy—using a virus to cripple the fungus. The virus, whose effects were first described by a French researcher in 1965, blunts the fungus' virulence, thereby giving the infected trees a fighting chance. U.S. researchers have been testing the virus since the early 1970s and have found that while the virus may save individual trees, the method isn't potent enough to protect a whole forest. Craddock and others suspect that the trees most likely to benefit from this method already have some ability to fight the blight. If so, chestnut restorationists may be able to use partially resistant trees coupled with virus control to outwit it.

Craddock pollinates a tree's blossoms with pollen from various American or Chinese trees and then encases the flowers in bags labeled with information.

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It's one thing, of course, for chestnuts to thrive in an orchard and quite another for them to flourish in a forest. "From the plant's point of view, the forest is an extremely harsh environment," says Craddock. "Trees are competing for nutrients and light. And you've got the constant pressure of predation. There are insects and mollusks, mammals and fungi—and they're all trying to eat you. I don't think we can expect to plant seeds all over the mountains and come back in 50 years and find a chestnut forest." Still, Craddock is confident that chestnut forests will return. Not in his lifetime, but maybe in his grandchildren's. "If you really like chestnuts," he says, "you've got to be an optimist."

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1 John P. Long, et al., Five-year restrospective, multi-institutional pooled analysis of cancer-related outcomes after cryosurgical ablation of the prostate. *Urology* 57 (3), 2001.
2 Peschel RE, Colberg JW. Surgery, brachytherapy, and external-beam radiotherapy for early prostate cancer. *Lancet Oncol* 2003; 4: 233-41.
3 The most commonly reported side effects of prostate brachytherapy are short-term urinary or obstructive symptoms within the first few weeks after the implant procedure.

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THE BOOKSELLER OF KABUL

ASNE SEIERSTAD
Translated by Ingrid Christophersen

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ARRIVING IN KABUL in 2002 after reporting on the coalition forces' search for remnants of Al Qaeda, Norwegian journalist Asne Seierstad ventured into a bookshop run by a man she would later call Sultan Khan. His civility and stubborn resilience engaged her. Taliban enforcers had ransacked the shop, she learned, and consigned books containing images the fundamentalists regarded as profane—renderings of living creatures, whether humans or animals—to a holy bonfire. Fearing what might come next, the bookseller sent his family into hiding in Pakistan and concealed his cherished volumes in attics around the city. He survived by putting only Taliban-approved works on his shelves. Eventually, he too fled to Pakistan: the entire family returned soon after the Taliban regime was ousted and Kabul was liberated.

Within days of Seierstad's arrival there, she invited herself to Khan's house and spent an evening with his family. She proposed a deal: give her a chance to live with the Khans and observe life in Kabul and she would produce a book on "the real Afghanistan." Khan agreed. In February 2002, Seierstad showed up at his house with only the clothes on her back, a laptop computer and notebooks.

She intended to pay homage to a man who had quietly resisted the Tal-

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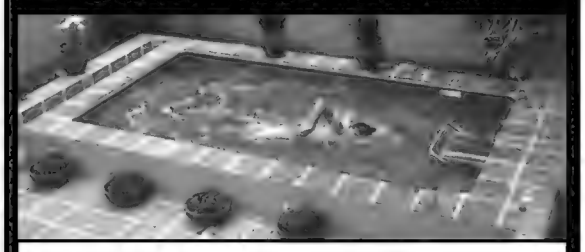

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Women in burkas "are like horses with blinkers," the author writes of wearing one to a market. The fabric is so dense that "one can smell one's own breath."

iban; she came away with quite a different story. Seierstad stayed several months and produced a manuscript entitled *The Bookseller of Kabul*. A Kabul book dealer, Shah Mohammed Rais, somehow obtained galley proofs of the book, recognized himself as its subject and boarded a flight to London, where he filed a lawsuit to block its publication. He objected to "misrepresentations of me, my family and my country." The "misrepresentations" consisted of Seierstad's portrayal of his tyrannical behavior in the household—largely toward the women but also toward his sons. The enlightened champion of Afghan literature was also, Seierstad writes, "an authoritarian patriarch." The legal action failed, and her narrative became an international bestseller, translated into 17 languages.

Seierstad conveys the texture of Afghan life in a series of vignettes told from the perspective of various members of the Khan family. She also describes a trip to the markets of Kabul in which, covered from head to foot in a blue burka, she tags behind the women of the household, jostling down alleyways, shrouded in billowing, heavy fabric: "The smell of saffron, garlic, dried pepper, and fresh pakora penetrates the stiff material and mingles with sweat, breath, and the smell of strong soap," she writes. "The nylon material is so dense that one can smell one's own breath." Only when the women have returned to the cool apartment do they

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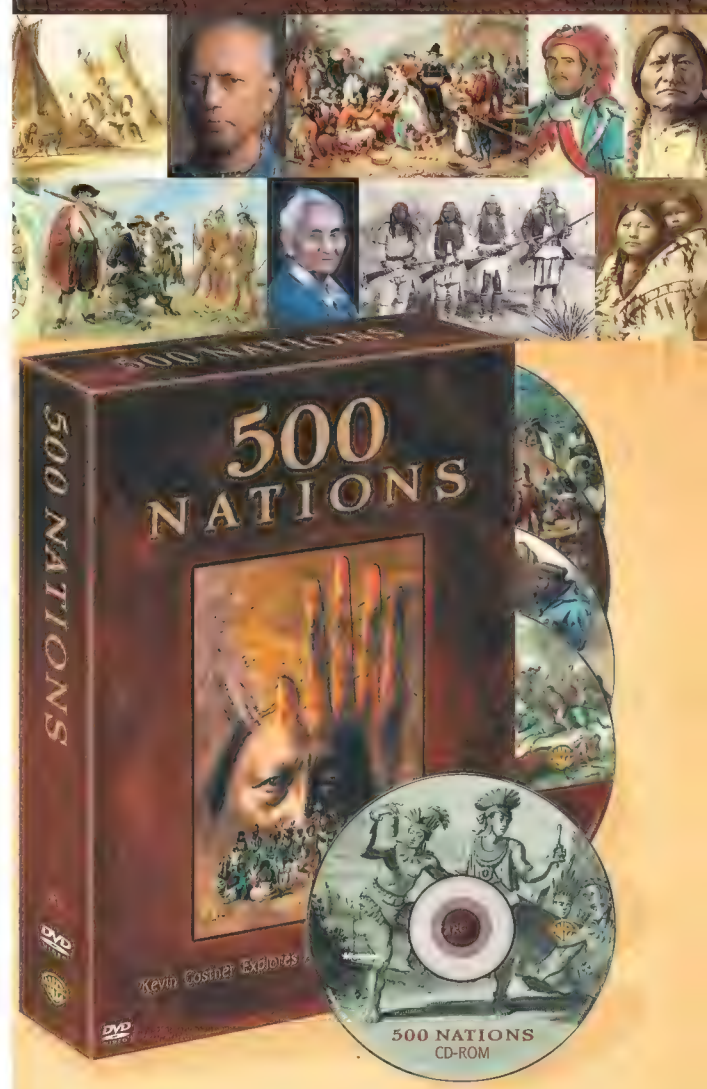

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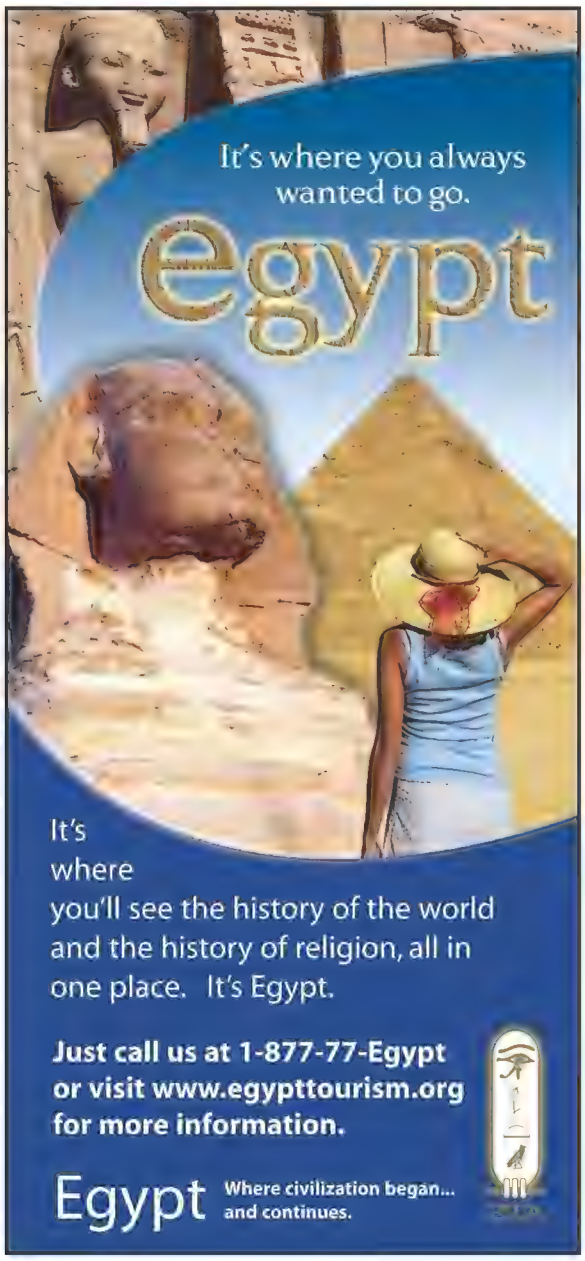
pull the cloaks over their heads, hang them on a nail and heave a sigh of relief: "Burka women are like horses with blinkers," she writes.

The episodic tale of the bookseller and his family does not have much plot, but dramatic tension grows out of the choices men—mainly men—and women make about sex and marriage in this culture. In Khan's household, the conflict begins with his decision to take a second wife shortly after his first, Sharifa, turns 50. Sultan Khan, in his early 50s, picks out a voluptuous 16-year-old cousin, Sonya, only to find that members of his family, rent by old loyalties and grudges, refuse to arrange the marriage. He must break with tradition and act on his own behalf: largely because he is prosperous, he succeeds. Seierstad describes the consequences within the family; anger and hurt give way to practical concerns. Realizing that everyone will be better off if the master is happy, Sharifa teaches Sonya how to cook his favorite chicken dish.

The women of the household also relay cautionary tales of girls outside the family who went wrong, who were beaten, shunned or even killed for associating with the opposite sex. Saliqa, for example, who not only accepted a note from a boy but actually met with him unchaperoned, is a case in point. Her situation is like a kettle without a lid, Sultan opines. "Anything could fall in—rubbish, soil, dust, insects, old leaves!" Even more tragic is Sultan's youngest sister, who dreamed of becoming a teacher and achieving independence. She is deemed to have waited too long to marry well. Her tentative, post-Taliban efforts to earn a teaching degree end in timid retreat.

A few anecdotes are told from the male viewpoint, including a vision of redemption to be achieved through pilgrimage to a Muslim shrine, recounted by Sultan's oldest teenage son, Mansur. This vivid and disturbing sketch portrays a young man caught between the demands of traditional and modern cultures, suggesting how religious and sexual fervor can converge to fuel a lust for martyrdom.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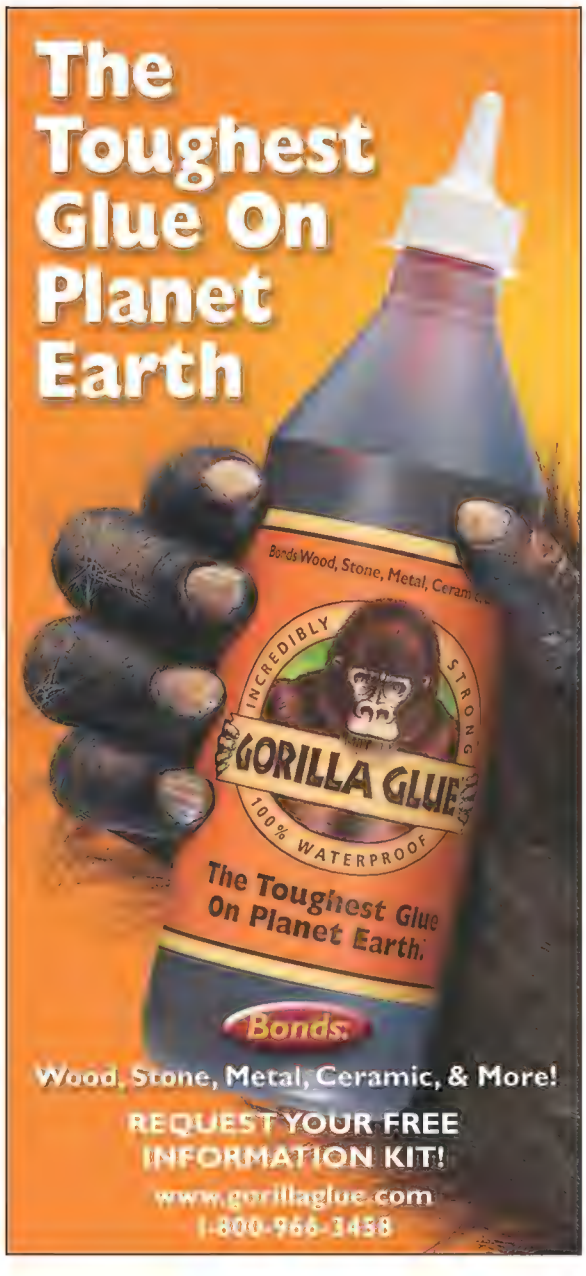

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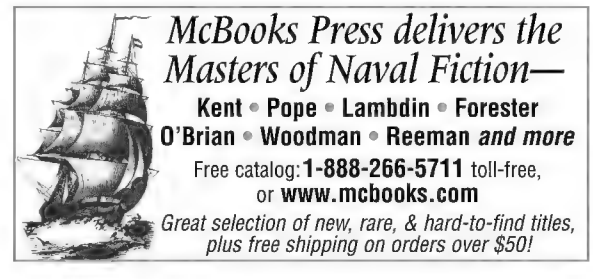
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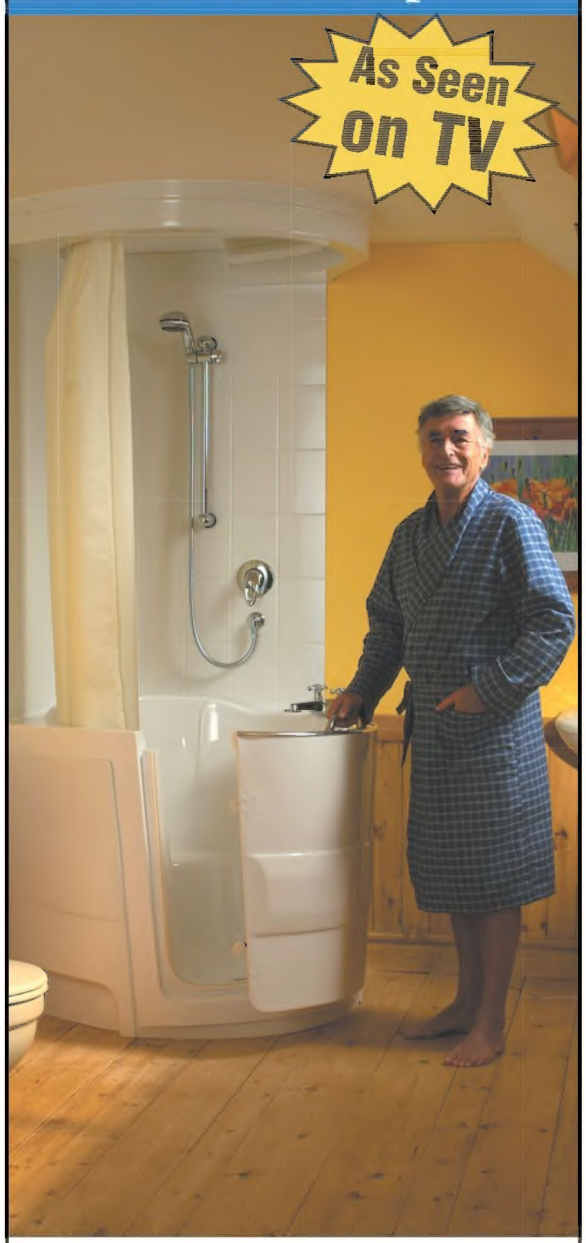

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GEORGE CRILE

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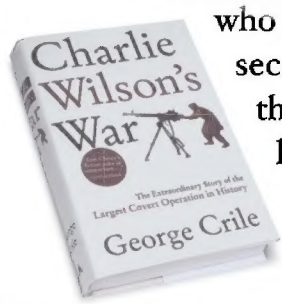
A RADICALLY different view of Afghanistan emerges in George Crile's *Charlie Wilson's War*. Crile, a television documentary producer, traces the career of a glamorous but alcoholic one-time congressman from East Texas who played a key role in a secret U.S. campaign in the 1980s to fund mujahedin (Muslim guerrilla fighters) battling Soviet troops in Afghanistan.



Wilson joined forces with a rogue CIA operative to create "an extra governmental conspiracy" that fed the Afghan resistance and may even have helped topple the Soviet Empire.

The Texan became obsessed by the insurgency. The key to victory, Wilson decides, is to supply cheap, light antiaircraft weapons to tribal warriors, thereby enabling them to shoot down helicopters. Eventually, Wilson persuaded Congress to go along with the plan.

Crile's recapitulation is most compelling for what it reveals about the backstage intrigues that took place at the CIA's Langley, Virginia, headquarters, as well as in Pakistan and in Representative Wilson's office. It has less to say about Afghanistan and its people. Crile's Wilson fell in love with the liberation of Afghanistan—not with Afghans. "The curious thing about Wilson's romance with these warriors is that he never got to know any one individual mujahid," Crile writes. "Deep down, he probably understood that he didn't dare; the magic might wear off."

It wore off after September 11, 2001, when the world learned that some of the same fundamentalists who had been marshaled so effectively against the Soviet Union were now providing aid and comfort to terrorists targeting the United States.

Reviewer ELIOT MARSHALL is a writer at Science *magazine in Washington, D.C.*

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CONTINUED FROM PAGE 12

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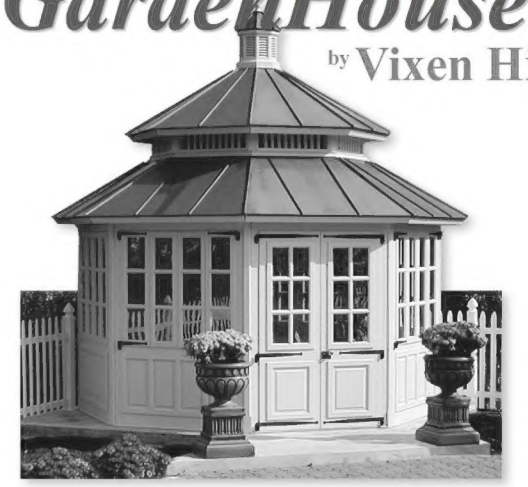

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From Russia with Love

Tolstoy Does "Oprah" ~ BY TOM FRANK

"Last week, Leo Tolstoy's Anna Karenina *was announced as the Oprah's Book Club summer selection. This week, it's No. 1 on the USA TODAY Best-Selling Books list."*—USA TODAY, *June 9, 2004*

OPRAH: Now let's visit with our special guest today. He's a big-time novelist, the man who brought you our favorite, *Anna Karenina*, and blockbusters like *War and Peace*. He's here to promote his *Confessions* and his latest heretical pamphlets on art and Christianity. Please welcome Count Leo Tolstoy! [Tolstoy walks in, and he and Oprah hug. They sit.]

OPRAH: I love your boots.

TOLSTOY: Thank you. I made them.

OPRAH: You *made* those boots?

TOLSTOY: Yes, let no man be above the peasant. I used discarded pieces of cloth and bits of Russian squirrel.

OPRAH: Amazing—and the tunic too?

TOLSTOY: No, my troika driver Timofey wore this every hour for 22 years straight, until the night of the wolves. I carry on in his memory.

OPRAH: That's so beautiful. So, last time you were here it was all about *Anna Karenina*, which we loved. [Applause] What's new?

TOLSTOY: I have forsworn women, drink and all animal foods. And all my previous works. Elite trash.

OPRAH: Right, so this must be the new radical Lev Nikolayevich everyone's talking about.

TOLSTOY: Let them talk.

OPRAH: OK then. Let's get on to *Confessions*.

TOLSTOY: Yes.

OPRAH: There is some wild stuff here. You've said your younger days were pretty much full of—am I getting this right?—"vulgar licentiousness." What do you mean by that?

TOLSTOY: This would not be fitting for national television, but I can say it involved distilled spirits and debauchery. Plus cards. And firearms. Occasionally bears.

OPRAH: Right. Now about your gambling: you write that you "lost at cards" and "squandered the fruits of peasants' toil."

TOLSTOY: I did. I loved cards, loved faro. Got in over my head with whist.

OPRAH: But you're out of debt?

TOLSTOY: Yeah, I sold off two dozen serfs, and I haven't gambled in over 20 years.

RICHARD THOMPSON

OPRAH: Twenty years, people. [Applause] Wow. You just went cold turkey?

TOLSTOY: I did. But I found great solace in fallen women.

OPRAH: I see.

TOLSTOY: You take it one day at a time.

OPRAH: Now, you were in the army a while too—in the Caucasus. Were the Russians as brutal as they say?

TOLSTOY: Well, on their own, Russians are actually pretty careful about pillaging. I mean, they'll at least aim for enemy villages. But you throw in one Cossack . . .

OPRAH: Really. You said nice things about Cossacks in your book.

TOLSTOY: Who wouldn't? I'm no fool.

OPRAH: You've been married a long time, right?

TOLSTOY: Over 40 years. [Applause]

OPRAH: Now your amazing wife, Sonya Andreyevna, is in the audience. I'm looking and—where did she go?

TOLSTOY: I think she stepped out to give birth, but she should be back for the rest of the show.

OPRAH: That's wonderful. [Applause] Will this be number 12, 13?

TOLSTOY: Something like that. In wedlock, out of wedlock, whatever—I'm not a numbers man.

OPRAH: But you do feel strongly about education, I understand. You even started a school for peasants on your estate?

TOLSTOY: Correct.

OPRAH: Wow, that must have been hard.

TOLSTOY: Yes, serfs are suspicious and greedy.

OPRAH: Right.

TOLSTOY: And forget about homework. It was always "the village idiot ate it."

OPRAH: If you had a ruble for every time, right? Now before we go, what are you working on these days?

TOLSTOY: Well, I'm mainly trying to dress in rags, give away my copyrights and land, and espouse radical Christianity.

OPRAH: Well, that's just great. [Applause] Best of luck to you, Leo. We'll be right back with our next segment, when we'll be talking to Sophocles, author of *Oedipus the King*, about his thoughts on parents, kids and working through misunderstandings. [Applause and cut to commercial]